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STICHOMETRY.

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STICHOMETRY.



BY

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STICHOMETRY.

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STICHOMETRY.

Introduction.

THE following investigations have been undertaken in the hope of obtaining some critical conclusions with regard to the extent of early documents, chiefly Biblical, from the apparently insignificant, yet highly important data furnished by certain numbers appended by ancient scribes to the books which they copied. It is only lately that I have come to regard, with any other feeling than complacent pity, the labors of those Masoretic editors of the Hebrew Bible who so carefully inform us as to the number of verses and the points of bisection of the separate books; the natural impulse of one's mind being towards the conclusion that such work might perhaps be agreeable at some period of involuntary incarceration accompanied by a most plentiful lack of books. The Masoretes themselves, however, seem to have been sensible of the importance as well as of the arduous nature of the work of book-measuring, since they preface their annotations with the word פִּקֵּן, which is generally understood to be an encouragement (*fortis esto*) either to themselves or their readers. How much more strongly would they have expressed themselves if their task had been, like ours, the inverse problem of restoring the ancient books from their accredited measurements! Doubtless their sympathy would have flowed (after the approved Rabbinic fashion, which I remember to have noted somewhere) in votive offerings of midnight oil for the labors of the devoted calculator.

Nature of Stichometric data.

The first part of this enquiry is retrospective, and consists in the accumulation and estimation of the principal results arrived at by modern philologists, with regard to the form of the early books and the manner of the ancient scribes; and these conclusions are presented as far as possible in an orderly form. The stichometric data which we obtain from MSS, or from early quotations of various writers, chiefly Greek and Latin, are frequently nothing more than pure numbers, sometimes followed by the word *στίχοι*, or an abbreviation of the same, and sometimes accompanied by additional information as to the number of leaves (*φύλλα*) or of columns (*σελίδες*) which were transcribed. For example, the MS N—103 of the National Library at Madrid informs us, at the close of the 5th book of Oppian's *Halieutics*, that the book contained
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φύλδ στι χοη, and similar annotations are found at the close of each of the separate books; i.e. the 5th book contains 14 leaves and 678 verses, results which Iriarte (Reg. Bibl. Matritensis, Cod. Gr. p. 408) could not harmonize with the MS or the text. The inference is that the archetypal copy whose numeration and pagination have been transmitted was composed of 14 leaves, each of which contained 50 verses, with the exception of the last, which had only 28 verses.

Their Antiquity.

That stichometric measurements are of great antiquity will appear from the following considerations: M. Weil has recently published fragments of Euripides from a papyrus¹ of the second century before Christ, the first of which comprises 44 lines of an unknown play, and at the close the words *Στίχοι ΜΔ*. The importance of this document for our purpose is evident; not only does it establish the antiquity of the custom of counting and appending the number of lines of a poem or portion of a poem, but the enumeration is made in the ordinary Greek manner.

¹ Un papyrus inédit de la bibliothèque de Firmin-Didot. Paris, 1879, p. 6.

Similar annotations are found on the margin of the Papyrus Bankesianus of the Iliad.

The Herculean rolls provide us with abundant instances of the same usage; here we find prose writings enumerated in a manner similar to poems, and frequently the older form of Greek numeration presents itself, as, for instance, n. 1027 (ed. Oxon.) has the subscription

ΚΑΡΝΕΙΣΚΟΤ ΦΙΛΙΣΤΑ Β. ΑΡΙΘ. XXXHHΔΔΔΠΙΙΙ,

which implies that a certain portion of the writings of Karniskus contains 3238 verses. What these verses represent in *prose* writings is a problem presently to be considered.

Other instances of the preservation of the more ancient Greek numeration may be seen in the MSS of Herodotus, Cod. Laurentianus LXX 3, and Cod. Angelicanus C 1, 6, and in several important MSS of Demosthenes. [The only Biblical MS in which I have found any traces of numeration of *στίχοι* in the Archaic Greek manner is Cod. Monacensis 375 (= Acts 46) in which we have as follows:

Rom. ΠHHHΔΔ	1 Thess. ΗΠΔΔΔΔΠΠ
1 Cor. ΠHHHΠΔΔ	2 Thess. ΠHHΠΠ
Gal. HHΠΔΔΔΔΠΠ	1 Tim. HHΔΔΔ
Eph. HHHΔΠΠ	2 Tim. ΗΠΔΔΠΠ
Philip. HHΠΠΠΠ	Tit. HHΠΠΠ
Col. HHΠΠΠΠ	Philem. ΔΔΔΠΠΠ.]

Stichometry earlier than the Alexandrian Library.

It is sufficiently evident that the custom of measuring literary works by *στίχοι* is coeval with literature itself, and instances may be given which establish the continuance of such measurements, both for prose and verse, down to the twelfth century, if not later. It is possible, however, that these more modern subscriptions are to a great extent traditional measurements from an earlier time. Ritschl¹, in his important researches on the subject of stichometry, came to the conclusion

¹ Opusc. Philolog. I, p. 84.

that Callimachus, of the Alexandrian Library, was the inventor of the stichometric method; the chief authority for such a statement is found in the following extracts from Athenaeus:

Τοῦ Χαιρεφώντος καὶ σύγγραμμα ἀναγράφει Καλλίμαχος ἐν τῷ τῶν παντοδαπῶν πίνακι γράφων οὕτως· Δεῖπνα ὅσοι ἔγραψαν· Χαιρεφῶν Κυρηβίωνι· εἰθ' ἐξῆς τὴν ἀρχὴν ὑπέθηκεν· Ἐπειδὴ μοι πολλάκις ἐπέστειλας· στίχων τοε'. Athen. VI, p. 244 A.

Ἀνέγραψε δὲ αὐτὸν (νόμον τινὰ συσσιτικόν) Καλλίμαχος ἐν τῷ τρίτῳ πίνακι τῶν νόμων, καὶ ἀρχὴν αὐτοῦ τήνδε παρέθετο· Ὅδε ὁ νόμος ἴσος ἐγράφη καὶ ὅμοιος· στίχων τριακοσίων εἴκοσι τριῶν. Athen. XIII, p. 585 B.

It will be evident, however, that these quotations really imply nothing more than a general statement that Callimachus entered books under certain catalogues, in which were found, with the name of the author and the title of the book, the first line of its contents, and the number of lines. And M. Graux¹ has pointed out that we have evidence anterior to Callimachus of the existence of prose works measured by their author in ἔπη, which is practically an interchangeable term with στίχοι. The reference is to Photius, Cod. 176, p. 120, where, discussing the writings of Theopompus, we find οὐκ ἐλαττόνων μὲν ἢ δισμυρίων ἐπῶν τοὺς ἐπιδεικτικούς τῶν λόγων συγγραψαμένῳ, πλείους δὲ ἢ ἰε' μυριάδας ἐν οἷς τὰς τε τῶν Ἑλλήνων καὶ βαρβάρων πράξεις μέχρι νῦν ἀπαγγελλομένας ἔστι λαβεῖν . . . ταῦτα αὐτὸς περὶ αὐτοῦ λέγων κτέ. Here then we have the personal statement of a writer, nearly a century previous to Callimachus, as to the stichometric measurement of the extent of his books. We shall frequently have occasion to refer to the researches of Ritschl and Graux, which are the basis of all modern investigations on stichometry.

Existence of a sensibly constant στίχος.

Assuming, then, the fact of such measurements, by means of which the separate works of a writer are determined, added together, and compared with works of other writers, we ask how

¹ Revue de Philologie, April, 1878, p. 97.

such measurements and comparisons were possible, unless there were somewhere an approximately constant element or standard of reference.

We might, indeed, compare the works of Homer with the tragedies of Sophocles, because the mention of the number of lines in each case is, with the exception of the choruses, made in terms of two constant units, the hexameter and the iambic trimeter, and the mind is perfectly capable of reducing one of them to the equivalent proportion of the other. But what possible light is thrown upon the comparative lengths, for instance, of a book of the Iliad, and the Antiquities of Josephus, when we are told by that writer that his work contains 60,000 *στίχοι*, and have no access to the MS in which he measured them?

It becomes interesting, therefore, to examine whether the word *στίχος* is ever deflected from its simple and indefinite meaning of line or verse into any special meaning which may identify it as a standard of length, suitable for times when the uniformity of printed editions was unknown.

Normal meaning of στίχος.

As we have said, its normal meaning is simply row, line, or verse. For example, the rows of stones in the breastplate of the high priest are by the LXX called *στίχοι*. *Στίχος λίθων ἔσται· σάρδιον, τοπάζιον καὶ σμάραγδος ὁ στίχος ὁ εἰς* (Ex. XXVIII 17), which the Vulgate renders by *in primo versu erit lapis sardius*, etc. In a military sense the *στίχος* is used of either a rank or file of soldiers, but more properly belongs to the latter. Thus we find in Montfaucon, Bibl. Coislin., cod. 347, some fragments of a little work *De Tacticis*, and here *στίχος καὶ δεκανία καὶ λόχος τὸ αὐτὸ ἐστίν· βάθος ἐστὶ φάλαγγος τὸ μετὰ τὸ μέτωπον ἅπαν καὶ ὁ ἀπὸ λοχαγοῦ ἐπὶ οὐραγὸν στίχος κατὰ βάθος λέγεται*, and the definition of *λόχος* contains the following interesting statement, showing that the fondness for particular numerical arrangements was gratified on every opportunity: *ἔνιοι μὲν τὸ σύστημα τὸ ἐξ ἀνδρῶν ὀκτώ, οἱ δὲ τὸ ἐξ ἀνδρῶν δώδεκα, οἱ δὲ τὸ ἐκ δεκαῆς ἀνδρῶν πληῆθος δ*

καὶ τέλειόν φασι καὶ σύμμετρον. We see that a preference is shown in arranging the men for the numbers 8, 12, and 16.

Precisely similar statements are found in Ælian, *Tactic.* IV, from which we may take the following :

‘Ο δὲ λόχος ἐστὶν ἀριθμὸς ἀνδρῶν ἀπὸ τινος ἡγουμένου καὶ τῶν μετ’ αὐτὸν ὀπισθεν ἐπομένων μέχρι τοῦ τελευταίου· τὸν δὲ ἀριθμὸν τοῦ λόχου οἱ μὲν ὀκτὼ ἀνδρῶν ἐποίησαν, οἱ δὲ δώδεκα, οἱ δὲ δεκαῆξ· ἔστω δὲ νῦν ἑκαίδεκα ἀνδρῶν ὁ λόχος· συμμέτρως γὰρ ἔχει πρὸς τε τὸ μήκος τῆς φάλαγγος· ὁ λόχος δὲ ὅλος καλεῖται στίχος, ὀνομάζεται δὲ καὶ δεκανία, ὑπὸ δὲ τινῶν ἐνωμοτία.

Στίχος a measure of syllables rather than words.

We shall then not be surprised if we find that the scribes, in arranging or in measuring their lines, show a preference for particular numbers; and any such plan of fixing the length of the line must evidently be by the enumeration, either of the letters, syllables, or words which the line contains. The last of these suppositions may be rejected almost at once; the continuous writing of early times pays little regard to words, which are broken up by the line-endings with the greatest freedom. On the other hand, the very greatest respect is paid to the division of syllables; it is true that this is somewhat obscured by the fact that the ancient division of syllables is different from the modern English method; but if we observe that the ancient syllable, in Greek manuscripts, ends with a vowel or weak letter, we can easily trace in most of the early MSS a complete system of syllable-section; and this respect paid to the syllable is a transcriptional phenomenon of great importance¹.

In fact, in many cases where we should speak of words, the ancient writer uses syllables; for instance, Galen² *de placit. Hippocr. et Plat.* VIII 1, ἐγὼ δείξω σοι δι’ ὀλίγων συλλαβῶν, where we should say “I will show you in a few *words*.” And Hermas *Vis.* II 1, μετεγραψάμην πάντα πρὸς γράμμα· οὐχ

¹ Cf. Kühner, *Grammar* I 273, and 315.
Westcott and Hort, *Introd. to N. T.*

² Kühn, V 655.

ἡῤῥισκον γὰρ τὰς συλλαβάς, where again we should say "I copied the whole, letter for letter, for I could not separate the words."

The same preference for syllabic measurements may be seen in the following fragments of Longinus¹ on the nature of metre and verse: τοῦ δὲ περὶ μέτρων λόγου πολλοὶ πολλαχῶς ἤρξαντο· οἱ μὲν ἀπὸ στοιχείων, ὡς Φιλόξενος, οἱ δὲ ἀπὸ τοῦ μέτρων ὅρου, ὡς Ἡλιόδωρος, ἡμεῖς δὲ Ἡφαιστίωνι κατακολουθήσομεν, ἀπὸ συλλαβῆς ἀρξάμενοι. And again, χρόνος γὰρ συλλαβὴν ποιεῖ, συλλαβὴ δὲ πόδα, πούς δὲ συζυγίαν, συζυγία δὲ στίχον, στίχος δὲ ποίημα, so that the basis of Hephaestion's theory of verse, which Longinus approves, is the syllable. We shall not, therefore, be surprised to find the same prominence given to the syllable in prose measurements. When we refer to Hephaestion himself (περὶ ποιήματος ch. 1, p. 65, Westphal) we find that στίχος ἐστὶ ποσὸν μέγεθος μέτρου, ὅπερ οὔτε ἑλαττόν ἐστι τριῶν συζυγιῶν οὔτε μείζον τεσσάρων, or the στίχος is declared to lie between three and four συζυγίαι, which Longinus explains to be διποδίαι.

Thus the στίχος of Hephaestion ranges between 6 and 8 feet; and although his definitions refer to poetry, we shall probably be able to trace some similar manner of division for prose lines.

Actual case of numbered syllables.

In order to establish this point, we return to the passage of Galen previously alluded to, and transcribe it more at length: οὕτως γοῦν ὁ ἀληθὴς λόγος ἐστὶ βραχύς, ὡς ἐγὼ δείξω σοι δι' ὀλίγων συλλαβῶν περαινόμενον ὄντα τοιοῦτον. 'ἐνθα τῶν νεύρων ἡ ἀρχή, ἐνταῦθα τὸ ἡγεμονικόν. ἡ δ' ἀρχὴ τῶν νεύρων ἐν ἐγκεφάλῳ· ἐνταῦθα ἄρα τὸ ἡγεμονικόν.' εἰς μὲν οὗτος ὁ λόγος ἐννέα καὶ τριάκοντα συλλαβῶν ὅπερ ἐστὶ δυοῖν καὶ ἡμισέως ἐπῶν ἑξαμέτρων. ἕτερος δ' ἐστὶ πέντε τῶν πάντων ἐπῶν· 'ἐνθα τὰ πάθη τῆς ψυχῆς ἐπιφανέστερα κινεῖ τὰ μόρια τοῦ σώματος, ἐνταῦθα τὸ παθητικὸν τῆς ψυχῆς ἐστίν· ἀλλὰ μὴν ἡ καρδιά φαίνεται μεγάλην ἐξαλλαγὴν ἔχουσα τῆς κινήσεως ἐν

¹ Longinus, ed. Egger, p. 69.

θυμοῖς καὶ φόβοις· ἐν ταύτῃ ἄρα τὸ παθητικὸν τῆς ψυχῆς ἔστιν· εἰ δὲ συνθείης ὥδὲ τούτους τοὺς δύο λόγους οὐ πλείον τῶν ὀκτῶ ἑξαμέτρων τὸ συγκείμενον ἐξ αὐτῶν πλήθος ἔσται. τίνες οὖν αἴτιοι τοῦ πέντε βιβλίοις γραφῆναι περὶ τούτων ἂ διὰ ὀκτῶ στίχων ἡρωϊκῶν ἐπιστημονικὴν ἀπόδειξιν εἶχεν ;

Στίχος identified with hexameter of 16 syllables.

According to Galen then, 39 syllables of prose writing are equivalent to $2\frac{1}{2}$ hexameters; 83 syllables represent 5 hexameters; the two quotations together, 122 syllables, do not amount to more than eight hexameters. From which it is obvious that the prose hexameter of Galen is 16 syllables; and we observe further that this line-unit is dignified with the alternative titles of ἔπος ἑξάμετρον, ἔπος, and στίχος ἡρωϊκός. The peculiarity in the use of these words seems to consist in the extension of the meaning of ἔπος which is implied in the use of an adjective, from its normal meaning of a heroic or hexameter line to the more general application which includes any written line whatever; while, on the other hand, the term στίχος, which normally represents any written line whatever, undergoes a contraction of meaning until we frequently find it used synonymously with hexameter, even to the exclusion of lines of other lengths. A curious instance of this may be seen in a tenth-century MS, written on Mount Athos, and described in Montfaucon, Bibl. Coislin., p. 597. Here we find στίχος used of hexameter verses, in distinction from iambs.

περὶ ποιητῶν.

ὅσοι διὰ στίχων καὶ ἰάμβων ἔφρασαν·

Ὅμηρος στίχους, Ἀπολλώνιος στίχους, Θεόκριτος ὁμοίως,

Ἄρατος ὁμοίως, Νίκανδρος ὁμοίως, Μένανδρος ἰάμβους κτέ.

So far, then, everything tends to the assumption that the στίχος is equivalent to the average hexameter, a conclusion which will be abundantly verified by an actual reference to texts and documents. It also seems that there is a preference shown for measuring the average hexameter by syllables, probably sixteen in number. The number of syllables in a

hexameter is an instance of variation between fixed limits (cf. the definition quoted from Hephaestion); but the number sixteen invites especial attention, as being that suggested by the first line of Homer, and also on account of its symmetrical or square character, which, as we have already seen, gave it a preference in the determination of the conventional number of ranks in a phalanx of soldiers, and which was always an important feature in the eyes of those who saw special Pythagorean virtues in numbers.

Alternative of a letter-line.

On the other hand we must enquire whether there is any ground for asserting the existence of a letter-line in preference to a syllable-line; for it may be assumed, I think, with safety that the art of transcription undergoes a double development: first, it changes from letter-by-letter writing to a writing syllable-by-syllable, and from this, for greater ease in reading, to a transcription word-by-word; so that the lines for successive periods of time would end, in the first case with the geometrical limit of the line, in the second and third cases with the most convenient syllable or word. And this change is evidently in the direction from a very regular line, such as those found in many early inscriptions, to one not quite so regular, such as occurs in early vellum MSS, and so to the somewhat irregular later writing. We should expect then to find some traces of the measurement of the actual number of letters in a line. The following are the only instances with which I am acquainted.

On the back of an astronomical work of Eudoxus¹, dating from the second century before Christ, are twelve verses forming the acrostic ΕΤΔΟΞΟΤ ΤΕΧΝΗ; these are arranged so that each of the letters is a day, each of the lines represents a month, and the whole poem a year of 365 days: according to the verse *ὁ μὲν στίχος μείς ἐστι, γράμμα δ' ἡμέρα*. [The writer could not possibly have composed this jeu-d'esprit in elementary astronomy unless he had known beforehand that it

¹ Wattenbach, Gr. Palaeographie, p. 7.

was possible to write trimeters averaging 30 letters each¹.] Another instance is given by Birt² from Pappus Alexandrinus (II 17, 4; II 23) in which the verse :

Ἀρτέμιδος κλείτε κράτος ἔξοχον ἐννέα κοῦραι

is reckoned at 38 letters (ἐπεὶ οὖν γράμματά ἐστιν λη' τοῦ στίχου).

Neither of these instances bears very exactly upon our enquiry; they show, however, traces of a method of measurement which must have been common in early times, when the letter, rather than the syllable, was the basis of metre and prose alike. It is almost a self-evident principle that a MS written on the basis of the letter will be reckoned by the number of its letters, and a MS written with reference to the syllable will be numbered by its syllables.

Actual Calculation of the Length of Lines for Various Authors.

We shall now confirm these results by the examination of actual data supplied by MSS and authors, following closely the results of M. Graux, with such changes as may be necessary in the arrangement of the matter, and some additions and corrections. Where the results deduced for the value of the στίχος are given in letters, we have only to remember that the average hexameter, taken by M. Graux from 50 lines of the

¹ Birt, Buchwesen, p. 161. [For Eudoxus is describing the Egyptian convenience of reference, I transcribe year with its supplementary five days.] the poem; the reader will see that

Ε 'Εν τῷδε δειξω πᾶσιν ἐκμαθεῖν σοφὴν
Υ 'Τμῶν πύλου σύνταξιν ἐμ βραχεὶ λόγῳ,
Δ Δοὺς τῇσδε τέχνης εἰδέναι σαφὴ πέρι·
Ο Οὐθεὶς γάρ ἐστιν ἐνδεὴς γνώμης ὅτῳ
Ξ Ξένον φανεῖται τῷδε ἐὰν ξύνη καλῶς.
Ο 'Ο μὲν στίχος μὲς ἐστι· γράμμα δ' ἡμέρα·
Υ 'Τμῶν ἀριθμὸν δ' ἴσον ἔχει τὰ γράμματα
Τ Ταῖς ἡμέραισιν ἃς ἄγει μέγας ὁ χρόνος
Ε 'Ενιαύσιον βροτοῖσι περίοδον τ' ἔχει
Χ Χρόνος διοικῶν ἀστέρων γνωρίσματα·
Ν Νικαῖ δὲ τούτων οὐθὲν ἕτερον, ἀλλ' αἰεὶ
Η "Ἢκει τὰ πάντα εἰς τὸ αὐτὸ ὅταν ἔλθῃ ὁ χρόνος.

² Birt, p. 160.

Iliad opened at random, is 37.7 letters ; and where the result is given in syllables, the average is 15.6 syllables, as deduced by Diels¹ from the first fifty lines of the Iliad. In every case we must divide the estimated letters or syllables of a book by the number of traditional lines. We begin with Herodotus ; stichometric notes are found in Laurentianus LXX 3, and Angelicanus C 1, 6, to books IV, V, VIII, IX.

M. Graux gives as follows :

		<i>Lines.</i>	<i>Letters to line.</i>
Book IV	XXXHHΠ	3253	37.6
V	XXHH	2200	37.5
VIII	XXHHHΔΔ	2322	37.6
IX	XXHHΠ	2206	37

Diels measures the syllables, giving :

	<i>Total lines.</i>	<i>Total syllables.</i>	<i>Syllables to line.</i>
Book IV	3253	48940	15.08
IX	2206	32640	14.8

For Thucydides we have the following from Dionysius of Halicarnassus (Judic. de Thucyd. c. 10) :

Book I, c. 1—87	δισχίλιοι	2000	35
I, c. 1—23	πεντακόσιοι	500	35

Diels estimates the syllables for the second passage to be 7740 and deduces a normal line of 15.5 syllables. There are several other stichometric notes in Dionysius to passages of Thucydides, for which M. Graux did not quote the results, because they seemed to diverge from the preceding. The difficulty in such cases is that the numbers are approximate and the passages not clearly defined. They will be found, according to Birt (p. 198), to give results agreeing closely with a line of 35 letters.

In Isocrates we have a single subscription from Codex Urbinas, together with some other marks to be discussed later on. This gives us :

		<i>Lines.</i>	<i>Letter line.</i>
Busiris	HHHΠΔΔΔΔ	390	37.4

¹ Diels, Hermes, XVII Bd., 3 Heft.

Diels gives 6070 syllables and deduces 15.5 syllables to the line, which is sufficiently near, though his estimate is in reality in excess by 30 syllables. Fuhr repeated M. Graux's calculation and made 37.66 letters to the *στίχος*¹. With the same datum corrected to 395, as suggested by Fuhr, we have a line of 15.2 syllables.

For Demosthenes we have a valuable collection of data from Graux and W. Christ², which may be exhibited in one table, with the corresponding MS authority and the deduced value of the *στίχος*. The notation of the MSS is based on that of Vömel, and no account is taken of documents inserted in the text. Obvious errors are corrected.

	MSS.	Data.	Corrected lines.	Letter line.
1 Olynth.	Σ BF.	HH ^Π ΔΠ	265	34.8
2 Olynth.	Σ } BFA _s }	HH ^Π ΔΔΔΔΠ } HHΔΔΔΔΠ }	295	35.3
3 Olynth.	Σ BF.	HHHΔΔΠ	325	36.6
1 Philipp.	Σ BF.	HHHH ^Π Δ	455	36.4
Peace	Σ BF.	HHΠΙ	206	35.7
2 Philipp.	Σ BF.	HH ^Π ΔΔΔΔ	290	35
Halonnesus	Σ BF.	HHHΔΔΔΔΠ	345	36.7
Chersonesus	Σ BFA _s .	Π ^Π ΔΔΔΔ	590	37.3
3 Philipp.	A _s } Σ BF. }	Π ^Π ΔΔΔΔ } Π ^Π ΔΔΔΔ }	580	36.3
4 Philipp.	B. } A _s } Σ }	ΠHΔΔΔHH } ΠHΔΔΔH } ΠHΔΔΔIIII }	634	35.8
Letter of Philip	Σ BFA _s .	H ^Π ΔΔΔΔΠΙ	196	35.1
Περὶ συντάξεως	Σ BF.	HHHΔΔΔ	330	35.8
Περὶ τῶν Συμμορίων	Σ BF.	HHH ^Π ΔΔΔΔ	390	34
Liberty of Rhodians,	Σ BF. } Corr. }	HHHΔΔΔΔΠII } HHHΔΔΔIIII }	334	34.5
Megalopolitans	Σ BF. } Corr. }	HH ^Π ΔΔΔΔIIIIH } HH ^Π ΔΔΔΔΠIII }	288	33.9

¹ Rhein. Mus. Bd. 37, Heft 3, p. 468.

² Die Atticusaussgabe des Demosthenes.

	MSS.	Data.	Corrected lines.	Letter line.
Treaty with Alexander,	Vat. } Corr. }	HHHΔΔΔHII } HHΠΔΔΔΠII }	277	34.6
Crown	BF. } Σ }	XXΠHHΠΔHIII } XXΠHHΠΔΠIII }	2768	35.8
De fals. leg.	Σ BF.	XXXHHΠΔΔΔ	3280	35.9
Leptines	Σ BF.	XΠHΠIII	1608	35.6
Midias	Σ BF. } Corr. }	XXIII } XXHI }	2101	35.6
Androtion	Σ	ΠHHΠΔΔΔ	780	35.3
Aphobos I	Σ BF. } Corr. }	ΠHΠΔΔΔ } ΠHΠΔΔ }	670	35.1
Aphobos II	Σ	HHΔΔΔΔ	240	33.8
Adv. Onet.	Σ BF.	HΔΔΔΔ	140	33.9
Lacritos	Σ BF.	HHHHΔΔΔ	430	35.8
Nausimachos	Σ F.	HHΠΔΔ	270	34.4
Boeotos I	Σ	HHHΠΔΔΔ	380	35.1
Boeotos II	Σ	ΠΠΔΔ	570	34.8
Macartatos	Σ	ΠHΠΔΔ	670	35.2
Leochares	Σ	ΠHΔΔΔΔ	640	34.5
Stephanos I	Σ	ΠHHΠΔΔΔΔIII	793	34.6
Corona Trierarch.	Σ } Corr. }	HHΠH } HHΠII }	252	34.4
Callippos	Σ	HHHΔΔIII	323	33.5
Nicostratos	Σ } Corr. }	HHΠI } HHHΠI }	306	35.1
Conon	Σ	HHHHΠΔ	460	35.7
Eubulides	Σ } Corr. }	ΠΠΔΔΔΔ } ΠHΠΔΔΔΔ }	690	34.3
Neaera	Σ } Corr. }	XXXXΠI } XXHΠI }	1251	35.5
Epitaph.	Σ } Corr. }	HHHHIII } HHHΠII }	357	36.9
Eroticos	Σ } Corr. }	ΠΠΔΔ } ΠΠΔ }	560	34.4

	<i>MSS.</i>	<i>Data.</i>	<i>Corrected lines.</i>	<i>Letter line.</i>
Prooemia	Σ	XHHH $\overline{\Pi}$ $\Delta\Delta$	1370	35.6
Epistle I	Σ	N $\Delta\Delta\Delta\overline{\Pi}$	135	35.1
	Corr. }	H $\Delta\Delta\Delta\overline{\Pi}$		
Epistle II	Σ	HH $\Delta\overline{\Pi}$ II	217	34.7
Epistle III	Σ	$\overline{\Pi}$ HHH $\overline{\Pi}$ $\Delta\Delta$	370	35
	Corr. }	HHH $\overline{\Pi}$ $\Delta\Delta$		
Epistle IV	Σ	HI	101	34.4
Epistle V	Σ	$\Delta\Delta\Delta\Delta$	40	36.5

The majority of the corrections in the previous table (due to Blass, Sauppe, and Graux) are sufficiently obvious. The results exhibit a remarkable constancy, though they are slightly in defect of the full average hexameter.

On the application of these data to the study of the genealogy of the MSS of Demosthenes, we must refer to W. Christ's valuable paper, previously alluded to.

Reserving the question of Biblical and Euthalian stichometry for later consideration, we have the following further references from M. Graux.

For Eusebius: *Praeparatio Evangelica*; from the MS Paris 451:

	<i>Lines.</i>	<i>Letter line.</i>
Lib. I $\overline{A\Phi H\Gamma} = A\Phi N\Gamma$	1553	37.2
Lib. II $\overline{AT\Pi\Gamma}$	= 1483	37.2
Lib. III $\overline{A\Omega N\overline{H}}$	= 1858	36.1

For Gregory of Nazianzus; from the MS Laur. VII. 8:

Homily		Homily	
I \overline{PH}	36	XXIII \overline{TMB}	35.4
II $\overline{A\Omega\overline{\gamma}\varsigma}$	35.4	XXIV $\overline{T\overline{\gamma}E}$	36.2
III \overline{PMB}	37	XXV $\overline{\Phi\Xi\Theta}$	36
IV \overline{BTNH}	36.6	XXVI $\overline{\Phi K\Gamma}$	36.4
V \overline{AMB}	36.7	XXVII $\overline{CI} = \overline{CO}$	36.7
VI \overline{XKE}	36	XXVIII $\overline{\Phi N\Theta} = \overline{\gamma N\Theta}$	36
VII $\overline{\Psi IH}$	35	XXIX $\overline{\Phi\overline{\gamma}}$	37
VIII $\overline{\Phi\Xi\Theta}$	35.9	XXX $\overline{\Phi} = X$	36.5

Homily			Homily		
IX	$\overline{PM\Theta}$	37.4	XXXI	$\overline{\Psi OE}$	36.5
X	\overline{P}	35.9	XXXII	$\overline{\Omega IA}$	36.9
XI	$\overline{C\Theta}$	36	XXXIII	\overline{TM}	36.6
XII	\overline{PN}	37.7	XXXIV	$\overline{\varphi\Theta} = \overline{C\varphi\Theta}$	36
XIV	$\overline{AIZ} = \overline{APZ}$	36.2	XXXVI	$\overline{TA\Gamma}$	35.5
XV	\overline{TA}	36.8	XXXVIII	\overline{TNE}	36.6
XVI	$\overline{XK\varsigma}$	35.3	XXXIX	$\overline{\Phi N} = \overline{\Phi H}$	36.6
XVII	$\overline{TA\Xi}$	36.8	XL	$\overline{AT\Theta}$	36
XVIII	\overline{ACAH}	35.8	XLI	\overline{THA}	37.2
XIX	\overline{TIZ}	36.5	XLII	$\overline{\Psi AB}$	36
XX	\overline{TA}	36.6	XLIII	\overline{BT}	35
XXI	$\overline{AP\Xi A} = \overline{\gamma\Xi A}$	35.6	XLIV	$\overline{C\varphi E}$	35.6
XXII	\overline{TAH}	36.8	XLV	$\overline{\Omega\Pi\Gamma}$	35.9

And for the letters of Gregory from the same source :

Ep. CI	TM	36
Ep. CII	P = PΞ	36.9

It must be sufficiently patent from the foregoing researches of M. Graux that every speculation as to the equality between the *στίχος* and the average hexameter is abundantly confirmed. The only thing that does not appear from the results is whether the lines are measured by their letters or their syllables; but this has been already discussed, and we have arrived at a high probability in favor of syllabic measurements, at least in the case of later authors.

Alternative στίχος of twelve syllables.

The next question that arises is whether there are traces of any other normal lines; and in the first place, are there any instances of lines measured by iambic trimeters, or lines whose normal extent is 12 syllables? Now if we measure this line by letters, we at once find from 25 lines of the *Medea* of Euripides 29.96 letters; and this number 29.96 is extremely suggestive when we examine the following passage from Josephus, at the close of the *Jewish Antiquities*: ἐπὶ τούτοις

τε καταπαύσω τὴν ἀρχαιολογίαν, βίβλοις μὲν εἴκοσι περιελημμένην, ἔξ δὲ μυριάσι στίχων.

If we take the assertion of Josephus literally, remarks M. Graux, we should find for the value of the στίχος *the in-admissible quantity 28 or 29 letters*. The statement is then explained to be a rough expansion of the assertion that each of the 20 books of the Antiquities contained 2000 or 3000 στίχοι. And Birt (Buchwesen, p. 204) suggests the alternative reading ε' for ἔξ by which the Josephus line will be 34.2 letters. Obviously the lines are really iambic lines: and this is confirmed in several ways by other considerations which I have adduced elsewhere¹. It will also be more apparent as we proceed with our subject.

The importance of the result is mainly this, that it establishes the habit of writing iambic lines, at least so far as regards the first century and the locality of Syria, a conclusion which may affect our views as to the character of the originals of the New Testament.

Alternative of a longer line.

Diels² believes that he has also found traces of a line even longer than the hexameter. He bases this belief on quotations which Galen makes from Hippocrates. From these we have³:

<i>Hippocrates (ed. Kühn).</i>		<i>Syllables Letters</i>			
		<i>Στίχοι.</i>	<i>Syllables.</i>	<i>to line.</i>	<i>to line.</i>
I. 348—360, 18		240	4360	18	40.8
I. 348—371, +616—625, 9	less than 600	11420	19	42.7	
I. 624, 17—625, 9	about 10	212	21.2	49	

Moreover in another place, Galen (V 716, Kühn) reckons 86 syllables of Plato, Tim. p. 70 D, as 4 στίχοι.

The difficulty of admitting these results is considerable; for we have already shown that Galen employs a sixteen-syllabled line for measuring στίχοι, and it is difficult to see how he should have varied his standard for another so nearly coincident with it as 18 syllables would be. Moreover, Diels has shown,

¹ Amer. Journ. Phil. 12, Suppl.

² Hermes, Bd. XVII, Heft 3.

³ Galen, ed. Kühn, XV 9, 10.

with high probability, by very appropriate quotations, that not only did Galen use a line of 16 syllables as his unit, but that the early copies of his works were written in an exemplar of that very length. This he establishes by the following quotations and measurements:

Oribasius III 662, 3 (ed. Daremberg et Bussemaker) *γίνεται δέ ποτε κτέ.* From Galen, *Meth. Med.* XIV (X 1009, 4 sqq. Kühn), on which the Scholiast remarks (p. 689, 12) *ἀπὸ τοῦ ἰδῆ τῆς θεραπευτικῆς ὡς πρὸ σὺν στίχους* (i. *στίχων*) *τοῦ τέλους, κεφ. περὶ ἔρπητος.* Three similar quotations are given from the same source¹, and finally we have:

	<i>Galen (ed. Kühn).</i>	<i>Στίχοι.</i>	<i>Normal Syllables.</i>	<i>Letters.</i>
X.	1007, 4—1021, 19	ca. 250	16.6	39.6
X.	445, 7—455, 12	ca. 200	15.9	41.2
X.	448, 4—455, 12	ca. 140	16.5	42.9
VII.	705, 1—717, 1	ca. 200	16	41

Galen, therefore, measures and perhaps even writes 16-syllabled lines; and the only conclusion we can come to is that his copy of Hippocrates must have been slightly in excess of the ordinary pattern, rather than that it was written on a new pattern.

Subdivision of lines in MSS.

The existence of the normal hexameter and iambic lines is, however, so little obvious from surviving MSS themselves, that an objection arises against the previous investigations on the ground of want of actual paleographic evidence. Perhaps the deficiency on this point is due to two causes. First of all, the cataloguing of an exactly written library edition, such as would be found in the library at Alexandria, rendered the preservation of the stichometric form unnecessary and prepared the way for the breaking up of that form; and in the next place, the breadth of the columns of the papyrus-rolls did not generally admit that the lines should be written in full, and they were consequently subdivided into two, three, or more narrow lines.

¹ Oribasius, IV 179, 4; IV 181, 2; III 598, 11.

Conspicuous instances are furnished by the celebrated Vatican and Sinaitic codices of the Bible; of which the lines represent respectively a somewhat curtate half-hexameter and a similarly divided iambic trimeter. This I have shown to be the case in the two MSS in question by the actual examination of the text for the accidental hexameter in James I 17 and for a quoted iambic verse in 1 Cor. XV. 34¹. The supposition is confirmed by Baehrens², in some good remarks on the Ancient Book-Form of Roman poets. And Baehrens points out that these subdivided lines may actually be seen in a papyrus roll represented on a Pompeian painting, where four lines are found divided into sixteen. This, however, may be nothing more than artistic license. In Montfaucon, Bibl. Coislin., for example, the Gospel of John is pictorially represented as being written by its author in lines of about a syllable each! The most likely place to find these subdivided lines is in epistles, which seem to have been written on shorter models.

Partial Stichometry.

A further development of the simple stichometric subscription is found in those MSS which inform us, by means of marginal notes from point to point, as to the number of *στίχοι* contained in the preceding portion of the book. And exactly similar statements are found in many early writers, who cite books by the number of *στίχοι* precisely as we quote page and line. To these annotations Schanz has given the name of Partial Stichometry.

Precisely as in the case of total stichometry, we find that these MS notes have no special connexion with the lines or

¹ American Journal of Philology, 12, Suppl. p. 18. [Very nearly the same thing may be noted in the specimen given in the Paleographical Society's Facsimiles from the Herculaneum fragments of Metrodorus, where we have the Homeric line

..... H
EAION TAKAMANTACE
AHNHNTETTAHΘOYCAN]

² Neue Jahrbücher für Philologie, Elfte Heft, 1892, p. 785: "aber dafür gab es nur eine möglichkeit, nemlich indem man die seiten schmäler machte; und dies führte wiederum notwendig dazu dass man grössere verse (hexameter u.s.w.) auf zwei oder mehr zeilen vertheilte."

verses of the documents in which they occur; they refer either to older copies, or to fixed and uniform measurements, perhaps to both.

For Isocrates.

For example, we have already discussed the total stichometry of Isocrates, Busiris, in Codex Urbinas. The MS also contains marginal references, which have been studied by Fuhr¹. Thus we find fol. 22, 10 (§ 25), before *τούτων αἵτιοι* the letter B; and before *γεγονότας ἡ τοὺς* the letter Γ; between these two Fuhr counts 3763 letters, which evidently represent 100 *στίχοι*. If this estimate be correct, we ought also to find that the part of the book before B represents 200 verses, the letters on the margin being the conclusions of the several hundreds of hexameters. When the book is measured in sixteen-syllabled *στίχοι*, we have the mark B at the 190th line and Γ at the 287th line; if, however, the lines are a little short so as to average 15.2 syllables, we have B at the 200th line and Γ at the 301st line, which is very exact; and the total book is now 395 verses, which supports Fuhr's emendation. These marks are therefore relics of a stichometry suitable for quotation; as they are not in the archaic numeration which is found at the close, but in the ordinary Greek character, it is right to assume that they are later in date. And we shall probably see reason to conclude that partial stichometry is, in its historical development, always later than total stichometry. In many cases the notation is a transitional one, employing the letters of the alphabet for the successive numbers, but not grounded upon the decimal system as in the later numeration.

There are several other marks on the margin of this MS which have never been explained. At Busiris 10 stands the figure ς against the words *ἀπολογίαν ποιήσασθαι*. This represents the 82d line (of the same length as the measured verse), and if we allow a little blank space at the beginning of the document for its title, it may very well be the close of

¹ Rhein. Mus. 37 Bd, 3 Heft, 1882, p. 468.

the sixth page of the exemplar copied, each page being 14 hexameters.

The mark ✕ also occurs, three times, once with the previous mark, once at the 345th *στίχος*, and once at the 368th. These are probably the marks of the *διορθωτής* or MS corrector, and may refer to simple pauses in the work of revision, or perhaps to pages either of the MS copied or of that used in the process of revision. In the actual case in question, the first pause was at the sixth page of the MS copied; while the proportion of the numbers 345 and 368, which are 15×23 and 16×23 , shows that the other two marks may be the conclusions of the 15th and 16th pages respectively of the *revising* MS.

The Urbinas MS has also other annotations of various kinds, the most prominent being the paragraph mark, a horizontal stroke against the beginning of the line where the pause is to be made. All these marks may be found quoted in Fuhr's article already referred to.

For Plato.

Schanz¹ has discussed a precisely similar question for the Plato manuscripts. He remarks that the Bodleian Plato (Clarkianus) has partial stichometry in the Cratylus and Symposium, the letters running continuously to ψ. Counting the lines of Clarkianus between the successive marks, we have 68, 69, 70, 71, 72, 73, 74, 75; 71 being the most frequent interval. Now this gives us a *στίχος* of 35·56 letters for the Cratylus, and 34·32 for the Symposium, which are sufficiently in accord with M. Graux's results. Similar stichometric marks are found in another MS of Plato, Venetus 185 (II of Bekker, D of Schanz). Here again they are confined to Cratylus and Symposium. Between two following letters lie on the average 68 lines; and the same sections are marked off by the letters as in Clarkianus. An interesting application is made by Schanz to determine the authenticity of a passage in Cratylus 437d, where certain words are wanting in MSS B and T. We can at once verify that these words were wanting in the exemplar that supplied the stichometry.

¹ *Hermes*, XVI 309, 1881.

W. Christ has studied in a similar manner the partial stichometry of Demosthenes¹ (Codex Bavaricus), and applied the results to the discussion of the integrity of various works of Demosthenes. The data for this investigation will also be found in the preface to Reiske's edition; though Reiske himself seems to have been ignorant of the meaning of the letters for which he gave the references. It will be sufficiently evident from this brief statement that the partial stichometric notes are even more important than the concluding numerical results for the purpose of the determination of the text as it stood in the early exemplars from which the numbers must have been derived.

Further instances.

The Papyrus Bankesianus has the verses marked by hundreds on the margin. So, apparently, the Ambrosian Pentateuch²; and many intermediate data for the measurement of the Acts and Epistles will be found in Zacagni's edition of Euthalius. Some instances of quotation by the number of *στίχοι* are found in Diogenes Laert. VII 33, 187, 188, but they are mostly in round numbers (*κατὰ τοὺς διακοσίους στίχους, κατὰ τοὺς ἑξακοσίους, κατὰ τοὺς χιλίους στίχους*), and we cannot therefore affirm that in these cases the exemplars employed by Diogenes were provided with intermediate measurements. Wachsmuth³ has discussed these references more at length with the object of showing the precise nature of the quotations made by Diogenes. He also points out that in the similar quotations which Asconius makes from Cicero, there is no reason to suppose the use of a measured exemplar, the citations made being frequently very loose, such as *circa medium, circa tertium*, and the verses being sometimes measured from the end instead of the beginning of the cited work. We have, however, sufficient actual MS evidence to make us certain that the method of citation by *στίχοι* must have been a common one; indeed, it was the only method available with any approach to accurate quotation.

¹ Die Atticusaussage des Demosthenes. München, 1882. p. xii.

³ Rhein. Mus. 34 N. F. p. 38, 1879.

² Ceriani, Mon. sacra et prof., III,

Sense-lines.

As we have already suggested that the development of the art of transcription proceeds from a foundation of letters to one of syllables, and finally from syllables to words and sentences, it becomes interesting to inquire whether there are instances of word-lines or sentence-lines corresponding to the well-established syllabic line.

If such exist, they will have made their appearance first in those parts of literature where the distinct enunciation of a sentence is most important, with the object of removing the causes which hinder rhythm and vocal effect. That is, it is evident that in works which are publicly recited, an effort will be made to render more easy the task of reading orally a continuous text. This is the case with the works of the great orators, as well as with the church lessons; and we may expect to find in such works a tendency in the direction of sense-lines rather than space-lines. In the first instance this tendency will only be manifested by the introduction of the paragraph mark, as it is found in the Hyperides papyri, the MS of Isocrates, and the early Bible texts. But this paragraph mark, perhaps accompanied by a rude interpunction, is not found by the rhetoricians to be a sufficiently obvious and emphatic division of the text. Sense-lines are therefore introduced. The change seems to be made in the first case with a reservation that the text when broken up shall still represent the same number of lines, or sensibly as many, as the archaic copies. And the natural effect of such a change is that the *στίχος* undergoes a new deflection in the direction of *sentence*, the sentence being not very different from a hexameter.

The evidence for these statements may be arranged as follows: St Jerome, at the commencement of his preface to Isaiah, informs his readers as to the nature of the book that he is translating.

“Nemo cum Prophetas versibus viderit esse descriptos metro eos aestimet apud Hebraeos ligari, et aliquid simile habere de Psalmis vel operibus Salomonis: sed *quod in Demosthene et Tullio solet fieri, ut per cola scribantur et commata*, qui utique

prosa et non versibus conscripserunt, nos quoque *utilitati legendium* providentes, interpretationem novam *novo scribendi genere* distinximus¹."

St Jerome introduces for the convenience of readers a new kind of transcription similar to that which was in vogue for Cicero and Demosthenes; this division of the text is by *cola* and *commata*. From Suidas² we find that when the *στίχος* forms a complete clause it is known as a colon: *κῶλον οὖν ὁ ἀπηρτισμένην ἔννοιαν ἔχων στίχος*.

From Joann. Sicul. in Hermog. 1, 63 (Vol. VI, p. 127, Walz), we find that writing by *cola* and *commata* is the invention of rhetoricians in imitation of poetry: *ὥστε ἐπειδὴ ποιητὰς οἱ ῥήτορες μιμοῦνται κῶλον λέγουσι τὸ ἀπὸ ἐννέα συλλαβῶν ὃν μέχρι τῶν ἑπτακαίδεκα· τὸ δὲ πλεον σχοινοτενὲς ὠνόμασται, κόμμα δὲ ἀπὸ μιᾶς μέχρι τῶν ὀκτώ. στίχους δὲ κοινῶς οὗτοι καλοῦσιν ἅπαντες εἰ μόνον ἀπαρτίζοιεν ἔννοιαν*. In this passage it is interesting to observe that the standard of measurement is still the syllable, but, as we should expect, there is no longer a fixed number of syllables to a line, but we have three rough divisions: viz. if the clause be less than eight syllables it is called *κόμμα*, if between eight and seventeen it is called *κῶλον*, and if greater than this, *σχοινοτενὲς* or a long-drawn-out sentence. Such a long line is actually termed a verse in a quotation given by Vömel³ from Aquila Romanus de Figuris c. 40: "Ponam . . . Demosthenicum versum; Et non dixi quidem haec . . . persuasi quidem." The passage (De Corona § 179) contains 20 words. We may actually see in operation the process of dividing the text of Demosthenes into *κῶλα*.

In a passage of the rhetorician Castor⁴, of the fifth century, we find the following:

Θήσομαι τὸν ὅλον Δημοσθενικὸν λόγον τὸν ἐπιγραφέντα Πρὸς τὴν ἐπιστολὴν Φιλίππου· τοῦτον γὰρ στίξομεν, σὺν θεῷ φάναι, κατὰ κῶλον καταντήσαντες εἰς τὴν ποσότητα τῶν κῶλων κατὰ τὸν ἀριθμὸν τὸν ἐγκείμενον ἐν τοῖς ἀρχαίοις βιβλίοις, ὡς ἐμέτρησεν αὐτὸς ὁ Δημοσθενὴς τὸν ἴδιον λόγον.

¹ Migne, Patrol. Lat. XXVIII, col. 771.

² Rhein. Mus. N. F. II 452.

³ Walz, Rh. Gr. III 721.

⁴ S. v. κῶλον.

Castor proposes, that is, to punctuate a passage of Demosthenes so that the numeration of the broken-up text may agree with the number of verses found in the old copies. Whether he supposes Demosthenes himself to have divided the text in this way, or whether he implies by the word *ἐμέτρησεν* a regular and uniform measure, is not very apparent at first sight; but a little consideration will show that it is not important to decide such a point, for it is sufficiently demonstrated that the stichometry of the MSS of Demosthenes is hexameter stichometry; and it must be the number of such verses that Castor wishes to preserve. Dionysius Halic. *De Comp. Verb.* XVIII gives explanations of the methods employed in breaking up the text of Demosthenes into cola and periods. For instance, in *De Corona* the first period is to consist of three cola, as follows:

Ἐν δὴ τῷ περὶ τοῦ στεφάνου λόγῳ, τρία μὲν ἐστὶν ἡ τὴν
πρώτην περίοδον συμπληροῖ κῶλα· οἱ δὲ καὶ ταῦτα καταμε-
τροῦντες οἷδε εἰσὶν οἱ ῥυθμοί.

Πρῶτον μὲν, ὃ ἄνδρες Ἀθηναῖοι, τοῖς θεοῖς εὐχόμεαι πᾶσι
καὶ πάσαις . . .

Τοῦ δὲ δευτέρου κώλου τοῦδε.

Ὅσῃν εὐνοίαν ἔχων ἐγὼ διατελῶ τῇ τε πόλει καὶ πᾶσιν
ὑμῖν . . .

Τοῦ δὲ τρίτου κώλου,

Τοῦ τοσαύτην ὑπάρξαι μοι παρ' ὑμῶν εἰς τουτονὶ τὸν
ἀγῶνα.

It is evident that this custom of colon-writing introduces a measure of confusion into the subject; the more so because colon-writing is sometimes accompanied by colometry, of which occasional traces may be found, as in Dionysius Hal.¹ who makes the proem to Thucydides up to οὐ χαλεπῶς ἀπανίσταντο to be 30 cola, and the beginning of the *Aristocratea* to be 9 cola. Misled by this peculiar dissection of the text at the hands of the rhetoricians, F. Blass² maintained strongly that the ancient *στίχος* was not a space-line but a sense-line. And

¹ Dion. Hal. *de Comp.* pp. 169, 199. Rhein. Mus. N. F. XXIV, 1869, p.

² Zur Frage über die Stichometrie. 524.

with remarkable skill, which M. Graux honoured with the term *habileté de main*, he proceeded to divide various passages, principally in Demosthenes, into a number of cola, sufficiently nearly in accord with the traditional number of verses.

Besides this, he reasoned that if the *στίχος* were a fixed quantity there ought to be a sensibly uniform ratio between the number of verses and the number of lines occupied in the printed text. This he maintained not to be the case.

In this, however, he seems to have failed almost completely, if we allow for the small margin of variation necessary in the measurement of the lines, and the small variations in the sizes of the Teubner pages to which he referred. A single instance will suffice. Taking the data for Herodotus, Blass gives:

	<i>Στίχοι.</i>	<i>Teubner Lines.</i>	<i>Ratio.</i>
Lib. IV	3253	2764	·849
Lib. V	2200	1866	·845
Lib. VIII	2322	1952	·840
Lib. IX	2206	1849	·842

If this does not demonstrate the use of a uniform verse-measure for Herodotus, it would be difficult to prove anything.

The merit of Blass' work consists, however, in the light it throws on the early rhetorical studies, and not at all in its bearing on stichometry. Blass himself, after making his colon division, came to the conclusion that the colon could not be very different from the hexameter. "Die Zeilen sind mitunter lang, aber selten länger als ein Hexameter¹." "*Das rhetorische Colon entspricht dem poetischen Vers*."² This is precisely what we should expect to find, for we have indicated that the colon was introduced as an alternative for the hexameter, and was made as far as possible equivalent to it. Another instance of this tendency, besides those which have been already quoted, is found in Cicero, Orat. 222: "E quattuor igitur (sc. membris) quasi hexametrorum instar versuum quod sit, constat fere plena comprehensio. His igitur singulis versibus quasi nodi apparent continuationis, quos in ambitu coniungimus."

¹ P. 529.

² P. 530.

Herodes Atticus¹ is said to have had a clepsydra made which was the time-equivalent of 100 hexameters, *συμμεμετρημένην ἐς ἑκατὸν ἔπη*, by means of which his enunciation was regulated.

Scrivener's pay and price of books.

We now turn to the question of the employment of stichometric measurements in determining the pay of scribes and regulating the price of books. For investigations on this point the best researches are those of Graux and Birt.

It is established by means of the celebrated edict of Diocletian (A.D. 301), which was a tariff of maximum prices for the Roman empire, that the pay of scribes was by the hundred lines; and M. Graux very justly remarked that this assumed the fixity of the line, and would be altogether illusory upon any other hypothesis. I have discussed elsewhere the statements of this edict and their stichometric value². It is only necessary, therefore, to give a brief recapitulation of the points thereby established. The edict from which the data are supplied is found in greater or less completeness in many localities, but the most important form is presented in an inscription from Stratonice; the figures being edited in the *Corpus Inscriptionum* from another inscription found in Phrygia. We have then:

Membranario in [qua]t[r]endone pedali pergamena.	[XL denarii]
Scriptori in scriptura optima versus No. centum.	[XXV]
Se[quentis] scripturae versuum No. centum.	[XX]
Tabellani in scriptura libelli vel tabular[um] in versibus No. centum.	[X]

It is clear from the inscription that there are at least two principal types of writing, if not a third; and in every case the measurement is by verses, no distinction being made or imagined between prose and poetry.

It is inconceivable that the difference in price should be due to a difference in the quality of the writing (as Birt suggests),

¹ Philostratus *Sophist.* II. 10, p. 185, quoted by Wachsmuth, *Rhein. Mus.* 34, 1879, p. 481.

² *American Journal of Philology*, 12, Suppl. p. 22 sqq.

for it would be somewhat difficult to graduate such uncertain things as the hands of scribes, to say nothing of dividing them exactly into good and bad; it must, therefore, be of different lengths of line that the edict speaks, *optimus* and *sequens* being the common terms all through the edict for first size and second size.

If the prices are correctly edited in the Corpus, the ratio 5:4 (= 35:28) is very nearly that of the normal hexameter to the normal iambic line, which confirms our previous speculations as to the existence of the iambic lines. The difficulty in all such cases is to reduce the brass denarius of Diocletian's time into an equivalent of modern money. If we may take the values given by Birt¹ from Hultsch², the payment is sufficiently small; 100 denarii being worth no more than 2.4 marks. The denarius is then .6 cent; the scribe's pay being 15 cents for a hundred hexameters and 12 cents for a hundred iambs. On this basis I have calculated the cost of production of the complete volume of which the Codex Sinaiticus forms a part; the result being approximately 180 dollars, the cost of the vellum being included.

It is not uncommon to find in early codices notes of the prices for which they were sold; Montfaucon (Bibl. Coislin. p. 57) observes that the price on the first leaf of a Psalter is γρόσα δ' = grosa sive drachmae quatuor; and at p. 83 he notes that codex 29 was bought for 24 *aspra*, the book itself being a commentary by Chrysostom on S. Paul's Epistles.

A cursive MS of the Gospels (No. 444) sold in A.D. 1537 for 500 *aspra*; upon which Scrivener³ notes that "the asper or asprum was a mediaeval Greek silver coin (derived from ἀσπρος = albus); we may infer its value from a passage cited by Ducange from Vincentius Bellovacus XXX 75, 'quindecim drachmae seu asperos.'" Since the four Gospels are not more than twice as long again as the Psalms, it is difficult to see why the Psalter should sell for 4 drachmae and the Gospels for 500. And it is possible that Montfaucon's price is incorrect.

¹ Birt, p. 209.

³ Scrivener, Introduction to N. T.,

² Hultsch, Neue Jahrbücher für Philologie, 1880, Heft 1. p. 208.

M. Graux¹ gives us the further important information with regard to the pay of scribes, that the custom of regulating, if not the tariff, at least the measure of lines written, continued right into the Middle Ages, especially at Bologna and other university towns in Italy. He quotes Savigny², "*Geschichte des Römischen Rechts im Mittelalter*," to establish this point.

The unit of measure is the *pecia*, which consists of 16 columns, each containing 62 lines, and the number of letters in each line being 32. "*Secundum taxationem studii bononiensis firmamus quod petia constituetur ex sedecim columnis quarum quaelibet contineat sexaginta duas lineas et quaelibet linea litteras XXXII.*" The numbers here are peculiar, and it is extremely difficult to believe that as many as 62 lines were normally written on the page. It is interesting, however, to observe the survival of ancient custom in the columnar writing, and the measurement of lines by letters. The statute is, therefore, in all probability the relic and modification of previous laws.

Whether the line of 32 letters has any reference to the Italian poetry, as Birt suggests, is extremely doubtful. It is more likely to have been suggested as a multiple of the favourite number 16. We have no reason to suppose that such a statute as that mentioned required that MSS should actually be copied in columns or lines of the pattern indicated; all that was necessary was the adoption of this unit as the standard, and the record by the scribe of the number of *peciae*. M. Graux remarks that these notes of the scribe as to the progress of his work, "*finis pecie I*," are sometimes found in the body of the pages or the text.

Upon the whole, I am inclined to believe that the text of the statute is incorrect in reading sixty-two lines, a most improbable number. If we read 72 for 62, the *pecia* is almost exactly 1000 hexameters of 36 letters each; strictly speaking it is 1024. And this is an extremely likely unit of work to have been handed down by tradition from the early scribes.

An interesting survival of this early manner of determining

¹ *Revue de Philologie*, p. 139.

² T. III. c. xxv, § 579.

the pay of a scribe is found in the modern custom among Indian copyists. Here the basis is the *çloka*, an iambic metre of 32 syllables, which is applied as a unit of measurement to writings of all kinds¹.

We shall now turn our attention to the bearing which these results have upon the restoration of the early book-form, and in particular upon the texts of the New Testament. Thus far we have avoided almost entirely any reference to the stichometric data supplied by Biblical MSS, because they constitute so important a factor in textual criticism that they deserve a separate discussion, and one more complete than has hitherto been accorded them. For the same reason we have reserved any allusions to Euthalius and his edition of the New Testament.

Extension of previous results to Bible-texts.

It might almost be assumed that the previous investigations as to the nature and interpretation of stichometric data, comprehending as they do writers of so many different centuries, and books of such different character, might be expected to apply without further examination to the texts of the Old and New Testaments. But as the subject reaches here its greatest importance, and has been attended by a good deal of confusion in consequence of the facility with which many of the books of the Bible are divisible into sense-lines, it becomes necessary to establish over again the fixity of the *στίχος*, and other points connected with the development of the art of transcription. This we shall easily be able to do, for the examination of the texts after the manner previously explained will show that in almost every instance the verse of the ancient scribes is a hexameter, and is measured by a standard number of letters or syllables.

Nature of stichometric data for Old and New Testaments.

The MSS of the Old and New Testaments, but especially of the latter, provide us with a rich collection of stichometric references, both total and partial, which enable us to measure

¹ Note by Dr Bloomfield in Amer. Journ. Phil. 12, Suppl. p. 22, and remark by Gardthausen from Nöldeke, in Griech. Palaeogr. p. 132.

the text with very great accuracy from point to point, and are a very valuable addition to any critical apparatus which is aimed at the restoration of the text of the early centuries. The total subscriptions stand not only at the end of the separate books, but sometimes at the close of a group of books, as the Catholic Epistles; the marginal subscriptions supply us with the successive fiftieth verses, and also with the number of verses proper to any particular lection in a book that has been divided for church or private use.

The stichometric notes do not¹ appear in the archaic numeration which we noted in Herodotus and Demosthenes, nor does marginal stichometry present itself in the transitional form which uses the successive letters of the alphabet, but pays no regard to the decimal system, as we have seen it in some Plato and Demosthenes MSS; there is, however, no doubt that these marks are of great antiquity, and in some cases we shall be able to fix an inferior limit to the date of their publication.

Variations of stichometric attestation.

There are several hindrances that encounter us at this point of our inquiry; and in particular the variety which is found amongst the stichometric subscriptions of any one book in different MSS seems to militate very strongly against the theory of a fixed and uniform verse-measure. A little consideration, however, shows us that the same argument would hold against the hypothesis of sense-lines, unless we assume that these were perfectly arbitrary in their character, and did not constitute a uniform system of division handed down by tradition as a convenience to the reader and a safeguard to the text.

The real reason of this variety lies in the following direction. First of all we must remember that we are dealing with books whose variety of reading is great, and where the importance attaching to the acceptance or rejection of a reading is likely to make the stichometry agree closely with the compass of the text, and change as the text changes. The insertion or rejection, for instance, of such a passage as the *pericope de*

¹ I have noted on p. 3 a single instance which contradicts this statement.

adultera would modify largely the stichometric count in the Gospel of St John. We must also bear in mind that these books are extant in various versions, and unless we adopt the hypothesis of sense-lines, the count may vary from version to version, even with a similar text.

We have further to observe that in the early Bible-texts we have certain conventional abbreviations which may in some cases even date from the autographs, and which will certainly affect the reckoning if a letter-line be used in the measurements, and probably also where the syllable-line is employed. Then there is a frequent corruption of the actual stichometric data, arising from carelessness on the part of the scribe, and sometimes, perhaps, from an ignorance on his part as to the meaning of certain old symbols employed to designate the numbers 90 and 900, etc. Last of all, it is possible that we may have to admit in some cases a variety in the measuring-line, though we shall still see that the most usual unit is the 16-syllabled hexameter.

Transition from space-lines to sense-lines.

We shall also be able to trace that same law of degradation in the form of the transcription which we observed to hold in the adaptation of continuous uncial texts to public reading; and it is possible that the first step towards this change of style in the early MSS consists in the *exact* numeration of the text from point to point by means of a suitable line-unit.

This change of form is first apparent in the poetical books of the Old Testament, from which it seems to have spread gradually to the whole of the Bible. We have already seen from Jerome's preface to Isaiah, that the method of division by *cola* and *commata* was becoming general, and was reckoned by Jerome himself to be as applicable to the Psalms as to the writings of Demosthenes and Cicero, and to the prophets as to the Psalms and other distinctly poetical books. And it is almost inevitable, if two different systems of transcription, corresponding respectively to stichometry and colometry, are found in the same volume, that a degree of confusion will arise between the regular verses of the earlier and the irregular verses of the later system, and that in the end one of these systems

will entirely supplant the other. This explains how it is that we find the term *στίχος* retained even when the fixed line to which it properly belongs has disappeared. It is in consequence of this degradation of form that we find the poetical books of the Old Testament in the earliest uncial MSS written in quite a different manner from the rest of the Bible. For example, the triple and quadruple columns of the Vatican and Sinaitic codices are replaced in these books by double columns of irregular verses, forming a remarkable contrast to the uniform writing of the remaining books. I regard it, however, as certain that this quasi-stichometry is not the original form of the books where it appears. The Song of Solomon, for example, is stated by Nicephorus and Anastasius to contain 280 verses; and, by an actual enumeration, it may be seen to be 275 sixteen-syllabled hexameters, which is such a close agreement that we may conclude that the earlier mode of reckoning, and therefore, in all probability, of division of the text, must have been at some time applied to the book in question. A great deal of light is thrown upon these points by some remarks of Hesychius of Jerusalem, in the sixth century, introductory to the study of the twelve minor prophets. An examination of the following passage will show the progressive encroachment of colon-writing upon the uniform text, and the consequent confusion between the *στίχος*, properly so called, and its substitute.

Στιχηρὸν τῶν ιβ' προφητῶν.

Ἔστι μὲν ἀρχαῖον τοῦτο τοῖς θεοφόροις τὸ σπούδασμα, στιχηδόν, ὡς τὰ πολλὰ, πρὸς τὴν τῶν μελετωμένων σαφήνειαν, τὰς προφητείας ἐκτίθεσθαι. οὕτω τοιγαροῦν ὄψει μὲν τὸν Δαυιδ καθαρίζοντα, τὸν Παροιμιαστὴν δὲ τὰς παραβολὰς καὶ τὸν Ἐκκλησιαστὴν τὰς προφητείας ἐκθέμενον, οὕτω συγγραφείσαν τὴν ἐπὶ τῷ Ἰωβ βίβλον, οὕτω μερισθέντα τοῖς στίχοις τὰ τῶν Ἀισμάτων Ἀισματα· πλὴν ἀλλὰ καὶ τὴν Ἀποστολικὴν βίβλον οὕτω τιτὶ συγγραφείσαν εὐρών, οὐ μάτην ἐν ταῖς δύο-δεκα βίβλοις τῶν προφητῶν καὶ αὐτὸς ἠκολούθησα· ἀλλ' ἐπειδὴ πολλὰ μὲν τῶν ἀσαφῶν ἢ τῶν στίχων σαφηνίζει διαίρεσις, διδάσκει δὲ τῶν στιγμῶν τῶν ἀπόρων ποῦ δεῖ τάττειν τὰς

πλείονας, ὥστε καὶ τὸν ιδιώτην καὶ τὸν ἄγαν ἐπιστήμονα τρυγησαί τι πάντως ἢ μικρὸν ἢ μέγα τοῦ πονήματος χρήσιμον¹.

It is evident from the foregoing passage that the first means employed to facilitate the reading of the continuous texts is *interpunction*; and that interpunction paves the way for colon-writing; Hesychius himself extends the irregular verse-writing to the minor prophets, and informs us that someone else had edited the Pauline epistles in a similar manner; and finally we notice that the new form of writing has the effect of restoring to the term *στίχος* somewhat of its original indefiniteness, and deflecting it from a space-line in the direction of a sense-line.

Actual instance of numbered sense-lines.

An instance of this deflection may be seen in a MS Memphitic Psalter, referred to by Lagarde in his edition under the sign D, which has stichometric data to every psalm. An examination of these will show that the appended numbers are not proportional to the lengths of the Psalms, neither in the Hebrew, the LXX, nor the Coptic. The following table for the first ten Psalms, based on Lagarde's edition and on the LXX, will make this apparent. The *στίχος* and Psalm are measured in letters:

		Στίχοι	Memph.	Letters to verse.	LXX.	Letters to verse.
Psalms	I	15	514	34·3	604	40·3
	II	27	755	28·0	806	29·8
	III	15	521	34·7	545	36·3
	IV	15	619	41·3	651	43·4
	V	28	880	31·4	911	32·5
	VI	21	621	29·6	709	33·7
	VII	37	1180	31·9	1289	34·0
	VIII	17	619	36·4	646	38
	IX	82	2559	31·2	2908	35·4
	X	17	528	31·0	583	34·3

It is, however, easy to write the Psalms rhythmically in irregular sentences, so as to make the reckoning true. For

¹ Migne, Patrol. Graec. 93, col. 1340.

instance, the 119th Psalm, which has 176 verses in ordinary Bibles, has 170 in the Memphitic text. It is even possible that the figure 6 has dropped. The remarkable point to notice is that the irregular verses are numbered just like the regular ones, a practice which leads to some confusion, though it has the advantage of giving the same reckoning for all the various versions.

Euthalius and his work.

We turn now to the stichometry of the New Testament. And here a fundamental misunderstanding seems to have prevailed for a length of time as to the connexion between Euthalius of Alexandria and the stichometric divisions of the text.

Scholz, in his *Prolegomena*, I xxvii, states that "Euthalius in epistolis Paulinis, actibus apostolorum et epistolis catholicis, eos (sc. versus) ita distinxit in usum lectorum, ut singulae lineae singulas absolverent sententias; qua distinctione observata scirent lectores quae continuo spiritu essent legenda, atque ubi intermissione opus esset. Exaratis in hunc modum epistolis adtexuit ad calcem cujusque epistolae numerum versiculorum, qui in plurimos codices irrepsit."

And the same statement somewhat modified seems to have been repeated right on to the present. According to Scrivener, *Introduction to the N. T.* p. 60¹, "Euthalius is said to have been the author of that reckoning of the *στίχοι* which is annexed in most copies to the *Gospels*, as well as the *Acts* and *Epistles*"; and in the introduction to the American edition of Westcott and Hort's *New Testament*, Dr. Schaff remarks "that the stichometric divisions or lines (*στίχοι*) corresponding to sentences were introduced by Euthalius."²

But it will easily be seen that in no strict sense can Euthalius ever be regarded as the inventor of stichometry, which

¹ P. 60, 2d Ed.; p. 62, 3d Ed.

² Misled by the concurrence of these and other New Testament editors and critics, I endeavoured to believe that in some way Euthalius and sticho-

metry were inseparable; and for this reason stated in a former study that the division of the New Testament into numbered sense-lines was introduced by Euthalius.

is anterior in date to the Christian era, and by no means a peculiarity of the New Testament; that he did not measure the Gospels at all; nor will it be easy to prove that he broke up the text into sentences, nor are these sentences the *στίχοι* which he enumerates. In fact, the New Testament text was reckoned by *στίχοι* long before the time of Euthalius, as we find that Origen reckons the second and third epistles of John to be less than a hundred verses, and the first epistle to contain a very few; and in the fourth century Eustathius of Antioch quotes two passages in the Gospel of John, with a remark that the interval between them is 135 *στίχοι*. Euthalius was a deacon of Alexandria somewhere about A.D. 458, and subsequently became bishop of Sulca, supposed by some persons to be a city in Upper Egypt. He describes his work in a dedication to a younger Athanasius, in the following language:

πρῶτον δὴ οὖν ἔγωγε τὴν ἀποστολικὴν βίβλον στοιχίδῳ ἀναγνούς τε καὶ γράψας, πρῶτην διεπεμψάμην πρὸς τινα τῶν ἐν Χριστῷ πατέρων ἡμῶν, μετρίως πεποιημένην ἐμοί . . .¹

ἐναγχος τοίνυν, ὡς ἔφην, τὴν Παύλου βίβλον ἀνεγνωκώς, αὐτίκα δὴτα καὶ τήνδε τὴν τῶν ἀποστολικῶν πράξεων ἅμα τῇ τῶν καθολικῶν ἐπιστολῶν ἐβδομάδι πονέσας, ἀρτίως σοι πέπομφα . . .²

τοίος τοιγαροῦν φιλόλογος ἄγαν ὑπάρχων τὸν τρόπον, . . . ἐναγχος ἔμοιγε τὴν τε τῶν πράξεων βίβλον ἅμα, καὶ καθολικῶν ἐπιστολῶν ἀναγνῶναί τε κατὰ προσφῶδιαν καὶ πῶς ἀνακεφαλαιώσασθαι, καὶ διελεῖν τούτων ἐκάστης τὸν νοῦν λεπτομερῶς προσέταξας, ἀδελφεῖ Ἀθανάσιε προσφιλέστατε, καὶ τοῦτο ἀόκνως ἐγὼ καὶ προθύμως πεποιηκώς, στοιχιδόν τε συνθεὶς τούτων τὸ ὕψος, κατὰ τὴν ἑμαυτοῦ συμμετρίαν, πρὸς εὐσημον ἀνάγνωσιν, διεπεμψάμην ἐν βραχεὶ τὰ ἑκαστά σοι . . .³

ἐγὼ δέ τοι στιχηδὸν τὰς καθολικὰς καθ' ἐξῆς ἐπιστολάς ἀναγνώσομαι, τὴν τῶν κεφαλαίων ἔκθεσιν ἅμα καὶ θείων μαρτυριῶν μετρίως ἐνθένδε ποιούμενος⁴.

διείλον τὰς ἀναγνώσεις καὶ ἐστήχισα πᾶσαν τὴν ἀποστολικὴν βίβλον ἀκριβῶς κατὰ πεντήκοντα στίχους, καὶ τὰ κεφάλαια

¹ Zacagni, p. 404.

³ *Ibid.* p. 409.

² *Ibid.* p. 405.

⁴ *Ibid.* p. 477.

ἐκάστης ἀναγνώσεως παρέθηκα, καὶ τὰς ἐν αὐτῇ φερομένας μαρτυρίας, ἔτι δὲ καὶ ὅσων στίχων ἡ ἀνάγνωσις τυγχάνει¹.

Some confusion seems to have arisen in the text of the previous passages between *στοιχηδόν* and *στιχηδόν*. Of the three passages in which the words occur, Zacagni edits *στοιχηδόν* in two places, while M. Graux with others reads *στιχηδόν* uniformly. An examination of these passages will, I think, show that it is almost as difficult to prove that Euthalius introduced stichometry into the New Testament as to prove that he introduced reading and writing (*ἀναγνούς τε καὶ γράψας*). The peculiar features of the arrangement of his text are prefaces, programmata, lists of quotations with reference to the authors, sacred and profane, from whom they come, and a complete system of convenient lections and chapters. The edition was also provided with a stichometric indication on the margin of every fiftieth verse and at the close of every complete lection. These annotations made reading and quotation a much easier business, but they are clearly only ancillary to the general arrangement of the work, though by a strange want of perspective the last feature has been made the most prominent one in the literary estimate of Euthalius. Neither must it be assumed that the lections which Euthalius marked are of his own division; in the Pauline Epistles they have evidently been adopted from some earlier father, who gives his own date (A.D. 396?)² in a prologue to the work, which Euthalius merely corrects in an appended sentence. The chapters also, at least in the Acts, are divided according to two totally distinct systems; this fact alone shows that Euthalius is retailing the Massoretic efforts of earlier students³.

Importance of the Euthalian stichometry.

The importance of the stichometric work done by Euthalius does not, however, diminish when we discount its originality; on the contrary it increases. For in the first place he distinctly

¹ Zacagni, p. 541.

² *Ibid.* p. 536.

³ Cf. Tregelles, Canon Muratoria-

nus, p. 104; Hug, Introduction to New Test. (English Trans.), i. p. 253.

informs us that his measurements were *accurate*; and in the next place, the MSS which he employed, at least for the Acts and Catholic Epistles¹, were the celebrated copies preserved at Caesarea in the library of Pamphilus². It is unfortunate that the word ἀκριβῶς, which Euthalius employs, and which makes the weight of his work, has been so much overlooked. Accurate measurements made by reference to the best MSS provide us with critical data of immense value. It becomes interesting, then, to find out what the accurate measuring line is which Euthalius employs.

In Zacagni's edition of Euthalius, or in the less complete one of Migne³, we have a rich vein of stichometric information which seems to have been very slightly worked. Not only is every programme, preface, and elenchus measured and the number of στίχοι appended, but there are so many intermediate stichometric data supplied for the text that we can measure from point to point with great accuracy, as soon as we know the measuring line employed.

M. Graux examined casually the numeration of the separate lections for the Acts of the Apostles, but he was perplexed at finding that the data supplied by Zacagni from the Vatican Codex Regius-Alexandrinus did not tally with those given by a Madrid MS Codex Escorial. ψ—111—6, and he seems to have given up the point in despair. The following table affords a comparison between the measures of the lections as given by the two MSS, and those given by actual division of Westcott and Hort's text into 16-syllabled στίχοι:

Lection.	Chapter and Verse.	Cod. Esc.	R. Al.	Syllabic.
1	I 1	40	...	40
2	I 15	30	30	30
3	II 1	109	109	111
4	III 1	136	136	143
5	IV 32	100	100	121
6	VI 1	88	220	190
7	VII 1 (ἐγένετο)	92	120	94

¹ Zacagni, p. 513.

³ Patr. Graec. 85.

² Migne, 85, col. 691.

<i>Lecton.</i>	<i>Chapter and Verse.</i>	<i>Cod. Esc.</i>	<i>R. Al.</i>	<i>Syllabic.</i>
8	VIII 1	75	95	77
9	IX 32	216	250	210
10	XI 27	283	300	272
11	XV 1	193	200	201
12	XVII 1	164	180	164
13	XIX 1	239	240	242
14	XXI 15	293	293	307
15	XXIV 27	168	268	160
16	XXVII 1	198	?	192

The remarkable agreement between the first and third columns¹ leaves little room for doubt that Euthalius employed as his measure a rhythm of sixteen syllables. The data of the Madrid MS are better preserved than the figures of the Vatican text: in the sixth lection the figure ρ has evidently dropped, and there are several other minor corruptions.

Comparison between traditional and measured verses.

A similar closeness of agreement is found between the other data supplied by Zacagni for the intermediate stichometry, and those furnished by actual measurement of the text; and the total is also found to be in remarkable agreement with the subscription of the best MSS and of Euthalius. The results are so good, in fact, that we are tempted to repeat Euthalius' work, and we shall divide the whole of the Acts and Epistles as given in Westcott and Hort into sixteen-syllabled hexameters. This being done, we exhibit the results, as in the subjoined table, and compare them with those deduced from Euthalius and from the majority of the codices of the New Testament in which any verse-measures have been preserved.

¹ Some trifling alterations have been made in correcting these figures from their first publication. The same remark applies to the tables which follow.

	Στίχοι by tradition.	Στίχοι by measurement.
Acts	2556	2559
James	237 or 242	240
I Peter	232, 236 or 242 ¹	245
II Peter	154	162
I John	274	268
II John	30	31
III John	32	31
Jude	68	70
Total for Catholic Ep.	1047	1047
Romans	920	942
I Corinthians	870	897
II Corinthians	590	610
Galatians	293	304
Ephesians	312	325
Philippians	208	218
Colossians	208	215
I Thessalonians	193	202
II Thessalonians	106	112
Hebrews	703	714
I Timothy	230	239
II Timothy	172	177
Titus	97	98
Philemon	38	42

Correction of previous results for abbreviation.

The approximation of the results is very striking; but there is almost always an excess in the second column, amounting in some cases to as much as 5 or 6 per cent.; and this uniformity of effect implies some producing cause. Now it can scarcely be maintained that the text of Westcott and Hort is ever much in excess of the text of Pamphilus, and so we have only one hypothesis to fall back upon: the text measured must have had abbreviations in it. Let us then assume that the four words

¹ Some confusion is apparent between the subscriptions in James and I Peter, which makes it necessary to record the principal variants; in other

places these are not given, but may be found in Scholz and the ordinary critical apparatuses.

θεός, κύριος, ἰησοῦς, χριστός, are abbreviated: we ought then on the average to deduct a syllable every time the words *θεός, χριστός* occur, and two syllables for the other two words. The correction is easily made by means of a concordance with sufficient accuracy, and the result can be expressed at once in hexameters and so deducted: when this is done for the Epistles we have as follows:

	<i>Traditional verses.</i>	<i>Measured verses.</i>
James	237 or 242	237
I Peter	232, 236 or 242	240
II Peter	154	158
I John	274	262
II John	30	30
III John	32	31
Jude	68	68
Romans	920	919
I Corinthians	870	874
II Corinthians	590	596
Galatians	293	296
Ephesians	312	314
Philippians	208	209
Colossians	208	209
I Thessalonians	193	194
II Thessalonians	106	106
Hebrews	703	705
I Timothy	230	234
II Timothy	172	170
Titus	97	97
Philemon	38	40

Allowing for the diversity of texts and for possible errors in the numbers copied, it would be unreasonable to expect a closer agreement between results. We have now the direct comparison between the text of Westcott and Hort and the early codices, as well as a satisfactory conclusion with regard to the verse-unit employed by Euthalius. The importance of this discovery consists in the fact that the question of stichometry is now removed from the region of averages, and we are able to

determine the length of any passage to within a hexameter. The only difficulty of a practical character is the divination of the particular forms of abbreviation employed in the copies to which Euthalius referred, and in the partial stichometry there is the difficulty of determining to what part of a line the numerical indication applies. It must also be borne in mind that in the statements made by Euthalius as to his own accuracy (*ἀκριβῶς*) the remark is in strictness limited to the Pauline epistles.

A glance at the results already arrived at will show that the greatest inequality between the results is found in the first epistle of John, where the traditional measure is 274 verses against 268 or 262 according as we admit abbreviation or not. At first sight this would seem to imply that the Euthalian texts contained a considerable passage which is not found in Westcott and Hort, and the celebrated passage I John V. 7 at once suggests itself. When, however, we examine the partial stichometric data which Zacagni collected from his Vatican MSS, we find that the same inequality runs through the book. For instance, Zacagni directs us to put the mark for the first hundred verses against c. II. 26, at which point the actual count has only reached 90. There is, therefore, some unexplained peculiarity to be dealt with before we can come to any critical conclusion as to the verse in question. [Probably a ten has been gained in counting.]

Further verification of the length of the Euthalian verse.

We may readily confirm the previous results by examining the prefaces, prologues, etc., of Euthalius which are prefixed to the separate books, a large proportion of which are numbered in *στίχοι*. And although in some instances corruption has taken place in the figures, the majority of the data agree closely with the hexameter hypothesis. For example, the following table will give the comparison between the data supplied for the Acts and Catholic Epistles and the numbers obtained by syllabic division.

Acts of the Apostles.

		<i>Traditional.</i>	<i>Calculated.</i>
Πρόλογος τῶν Πράξεων	(Migne, col. 628)	140 ¹	138
Ἀνακεφαλαίωσις	(„ 640)	? ²	107
Ἐκθεσις κεφαλαίων	(„ 652)	? 17	11
Κεφάλαια τῶν Πράξεων	(„ 652)	172	178
Breviarium capitulorum	(„ 661)	40	40

Catholic Epistles.

Ἀνακεφαλαίωσις	(Migne, col. 668)	14 ³	14
Κεφάλαια Ἰακώβου	(„ 677)	25	26
Κεφάλαια Πέτρου α'	(„ 680)	25	24
Κεφάλαια Πέτρου β'	(„ 684)	10	10
Κεφάλαια Ἰωάννου α'	(„ 685)	23	23
Κεφάλαια Ἰωάννου β'	(„ 688)	5	5
Κεφάλαια Ἰούδα	(„ 689)	11	11

And in the same way we might count the text of Euthalius through the Pauline Epistles, and we should find our hypothesis fully confirmed. There is sometimes, as above, a little confusion in the figures, but this is precisely what we expect when figures are handed down by successive transcription.

These then are some of the results of comparison between a measured selected text and the traditional verse-numberings. Although they are more irregular in the Gospels, to which we shall presently refer, than in the Epistles, it must be admitted that in both cases (but especially in the Epistles) they offer a new critical instrument to the student of the New Testament, by means of which to restore the text to the same compass as it occupied in the early copies.

The matter is, however, much complicated by those causes which produce diverse measurement, to which allusion has been already made. Corruption of the data is common, and frequently affects the greater part of the testimony: for example, the number of verses in Romans is 920, as given by Euthalius

¹ PN in Reg. Alex. PM in Cod. Esc.

² PN in Reg. Al. PK in Cod. Esc. PZ or PH corr.

³ The reading AI of R. Al. and IA of Cryptoferr. are evidently corruptions of this.

and many MSS; but a larger group gives the impossible λκ and λη, which are nothing more than a corruption of ϑκ. It is, perhaps, a reasonable prediction that the next edition of the New Testament will be accompanied by a marginal stichometry.

Instances of partial stichometry.

Zacagni, in his edition of Euthalius, has furnished us with a series of notes and various readings under the title "*Variae lectiones ex Regio Alexandrino Vaticanæ Bibliothecæ codice depromptæ.*" Amongst these are found a great many instances of partial stichometry: some of these coincide with the close of the lections; and others have reference to the measurement by fifties and hundreds, of which Euthalius speaks as having been a feature of his edition, though it is by no means certain that he introduced it. The following instances are given for the margin of the Acts:

<i>Chapter.</i>	<i>No. of verses.</i>	<i>No. of verses by count as before: 16-syll. abbr.</i>	<i>Chapter.</i>	<i>No. of verses.</i>	<i>No. of verses by count as before: 16-syll. abbr.</i>
1, 15	40	40	8, 13	650	654
1, 19	50	50	8, 34	700	703
2, 36	150	150	9, 1	717	719
3, 11	200	201	9, 15	750	751
4, 23	300	297	9, 31	792	795
4, 31	315	319	9, 36	800	804
6, 1	440	438	10, 12	850	851
6, 5	450	449	11, 7	950	954
7, 10	500	501	11, 27	998	1000
7, 53	600	610	13, 11	1100	1102
7, 60	625	625	14, 1	1200	1201
15, 1	1271	1271	22, 5	1950	1953
15, 11	1300	1301	22, 26	2000	2004
15, 34	1350	1352	23, 10	2050	2046
17, 1	1465	1460	23, 30	2100	2102
17, 15	1500	1502	24, 18	2150	2153
18, 4 (?)	1550	1750	25, 4	2170 (?)	2187
18, 11	1590 (?)	1580	25, 12	2200	2210
19, 11	1650	1655	26, 1	2250	2255
20, 7	1750	1751	27, 1	2325	2336

<i>Chapter.</i>	<i>No. of verses.</i>	<i>No. of verses by count as before : 16- syll. abbr.</i>	<i>Chapter.</i>	<i>No. of verses.</i>	<i>No. of verses by count as before : 16- syll. abbr.</i>
20, 28	1800	1803	27, 10	2350	2360
21, 8	1850	1852	27, 29	2400	2406
21, 14	1870	1870	28, 1	2450	2452
21, 28	1900	1905	28, 17	2500 (?)	2485

And the completed reckoning gives us 2559, which must be corrected for abbreviations to 2527; results which agree very closely with the number given by Euthalius, 2556; and the number given by Scholz from a large group of manuscripts, 2524. It will be noticed that our reckonings are 2 or 3 verses in excess in either case.

In the partial stichometry tabulated above, it will be noticed that the results (which I have done my best to keep clear of error) are very closely in harmony with one another: and it is conceivable that the adoption of a letter-line might make the approximation even more close. In one or two of the data errors appear, as at c. XVIII 4, where we have 1550 verses; and at XXV 4 we are told to put the figure 2170, where the scribe seems to have dropped a ten, and the defect shows itself in the subsequent figures. It must be remembered that a single printed verse will sometimes contain five or six *στίχοι*, so that we could hardly look for much better agreement, and we must defer a closer critical comparison until the text can be printed stichometrically with proper abbreviations, and an accurate marginal reckoning of the lines, suitable for comparison with a revised critical edition of Euthalius. I think we may conclude also that the printed text of Westcott and Hort in the Acts is within three hexameters of the text circulated in the third century.

The importance of these intermediate stichometric data is obvious; and the only difficulty in applying them lies in the determination of the part of the verse to which the stichometric number belongs. Sometimes an intimation of this is given by Zacagni, at other times he does no more than designate the verse against the margin of which the mark stands.

Let us apply the evidence supplied by these marks to the critical question of the authenticity of the passage Acts VIII 38.

The doubtful sentence is about three hexameters long. Against the margin of VIII 34 stands the number 700: against the first verse of IX, which is also a new lection, the number 717.

The 34th verse of the eighth chapter is $2\frac{1}{2}$ hexameters, from the 35th to the end is 13 hexameters, omitting the doubtful words, and the first verse of the 9th chapter is a hexameter and a half.

But since this first verse ought clearly not to be counted, for the beginning of the lection is the point noted, we have at the most $15\frac{1}{2}$ hexameters, with no allowance made for abbreviation. It requires, therefore, the disputed passage to make up the tale. The partial stichometry, therefore, recognizes this passage.

We shall now give in order for the Catholic Epistles, for convenience of reference, the Euthalian measures, together with any partial stichometry supplied by Zacagni:

		<i>Verses.</i>
James	Lecture I	112
	II (c. 3, 1)	121
I Peter	Lecture I	58 ?
	II (c. 2, 9)	149 ?
II Peter	Lecture I	154
I John	Lecture I	150
	II (c. 3, 15)	140
II John	Lecture I	30
III John	Lecture I	31
Jude	Lecture I	68
James	c. 1, 26	50
	c. 2, 21	100
	<i>ad fin.</i>	230 (? 237)
I Peter	c. 1, 22	50
	c. 2, 9	58
	c. 4, 19	200
	<i>ad fin.</i>	246
II Peter	c. 2, 1	50
	c. 2, 20	100
	c. 3, 17	150
	<i>ad fin.</i>	154

		Verses.
I John	c. 2, 26	100
	c. 4, 11	200
II John	<i>ad fin.</i>	37 (?)
III John	<i>ad fin.</i>	32
Jude	v. 14	50
	<i>ad fin.</i>	68

In the Pauline Epistles we have the following data:

Romans	Lecture	I	242
		II c. 5, 1	248
		III c. 9, 1	185
		IV c. 12, 1	125
		V c. 15, 1	125
		Total	920
I Corinthians	Lecture	I	250
		II c. 7, 1	84
		III c. 8, 1	116
		IV c. 12, 1	266
		V c. 15, 1	154
		Total	870
II Corinthians	Lecture	I	152
		II c. 4, 7	156
		III c. 8, 1	94
		IV c. 10, 1	187
		Total	590
Galatians	Lecture	I	130
		II c. 3, 15	163
		Total	293
Ephesians	Lecture	I	136
		II c. 4, 1	176
		Total	312
Philippians	Lecture	I	120
		II c. 3, 1	88
		Total	208
Colossians	Lecture	I	157
		II c. 3, 17	51
		Total	208

		<i>Verses.</i>
I Thessalonians	Lection I	193
II Thessalonians	Lection I	106
Hebrews	Lection I	257
	II c. 7, 11	232
	III c. 11, 1	214
	Total	703
I Timothy	Lection I	230
II Timothy	Lection I	179 (? 172)
Titus	Lection I	97
Philemon	Lection I	37
Total for the Pauline Epistles,		4936

The partial stichometry is as follows :

Romans c. 1, 24	50	Romans c. 9, 30	550
2, 14	100	11, 1	600
3, 9	150	11, 24	650
4, 9	200	12, 1	675
5, 1	240	12, 11	700
5, 6	250	13, 13	750
6, 1	300	14, 23	800
7, 1	350	15, 25	850
7, 21	400	16, 18	900
8, 22	450		
I Cor. c. 1, 26	50	I Cor. c. 12, 1	550
3, 4	100	12, 27	600
4, 8	150	14, 29	700
5, 10	200	15, 1	720
7, 27	300	15, 16	750
8, 1	331	15, 47	800
9, 16	400	16, 13	850
11, 10	500		
II Cor. c. 3, 2	100	II Cor. c. 9, 14	400
5, 10	200	11, 4	450
8, 1	308	11, 26	500
8, 20	350	12, 18	550
Gal. c. 2, 1	50	Gal. c. 3, 24	150
2, 21	100	4, 27	200
3, 15	130	5, 22	250

Ephes.	c. 3, 3	100	Ephes.	c. 5, 28	250
	3, 21	136		6, 19	300
	4, 10	150			
Phil.	c. 1, 17	50	Phil.	c. 3, 1	120
	2, 19	100		4, 18	200
Colos.	c. 1, 23	50	Colos.	c. 3, 18	157
	2, 14	100		4, 16	200
	3, 13	150			
I Thess.	c. 2, 10	50	I Thess.	c. 5, 3	150
	3, 11	100			
II Thess.	c. 2, 9	50			
Hebrews	c. 2, 8	50	Hebrews	c. 9, 21	400
	3, 12	100		11, 5	500
	4, 14	150		11, 26	550
	5, 13	200		12, 4	600
	7, 2	250		13, 1	650
	7, 25	300		13, 23	700
	9, 1	350			
I Tim.	c. 4, 1	100	I Tim.	c. 6, 10	200
	5, 11	150			
II Tim.	c. 2, 14	50	II Tim.	c. 4, 16	150
	3, 6	100			

Extension of inquiry to the Gospels.

When we turn to the Gospels we find a difficulty arises from the fact that almost all the causes which tend to produce variety of stichometric subscription are in operation. In particular the variety of texts is great. The Textus Receptus, for example, shows an excess of at least 50 hexameters in the Gospel of Matthew over the text of Westcott and Hort. This makes our inquiry extremely interesting, for we begin at once to ask such questions as relate to the authenticity of the last twelve verses of Mark, the *pericope de adultera*, and other important passages. Does the stichometry, which is certainly very ancient, recognize these disputed places as belonging to the texts of the New Testament on which its reckoning is based? In the first place we have to face the diversity of the traditional measure-

ments; the following tables are based upon numbers supplied by Scholz, Tischendorf and Scrivener.

Matthew.

<i>MS.</i>		<i>Στιχοι.</i>
428	<i>αυοδ'</i>	= 1474
421	<i>βυ'</i>	= 2400
157	<i>βυπδ'</i>	= 2484
161	<i>βφ'</i>	= 2500
164, 262, 300, 376	<i>βφιδ' = (? βφνδ')</i>	= 2554
9, 13, 124, 163, 174, 175, 345, 346, 427	<i>βφξ'</i>	= 2560
G. H. S. 7, 18, 28, 41, 45, 46, 48, 50, 117, 122, 131, 153, 237, 241, 246, 252, 261, 263, 277, 280, 290, 292, 347, 348, 388, 435, and l, m, n, w, (of Scr.)	<i>βχ'</i>	= 2600
K. 6, 116, 387	<i>βψ'</i>	= 2700
339	<i>βωξ'</i>	= 2860
264, 273	<i>γτςζ'</i>	= ? 3397

Mark.

4	<i>ακ'</i>	= 1020
164, 262, 300, 376	<i>αφς'</i>	= 1506
117, 153, 157	<i>αφν'</i>	= 1550
Λ.	<i>αφς'</i>	= 1590
G. H. S. 7, 18, 28, 41, 45, 48, 50, 128, 167, 202, 237, 241, 246, 252, 261, 267, 277, 280, 290, 292, 301, 347, 388	<i>αχ'</i>	= 1600
9, 13, 124, 163, 174, 175, 339, 346, 427, 435	<i>αχις'</i>	= 1616
K. 6, 116, 387, 128, 131	<i>αψ'</i>	= 1700
264, 273	<i>αωκθ'</i>	= 1829

Luke.

20	<i>βχζ'</i>	= 2606
Λ. 164, 262, 300, 376	<i>βχοζ'</i>	= 2676
124, 163, 174, 175, 345, 346	<i>βψμ'</i>	= 2740
9, 13, 427	<i>βψν'</i>	= 2750
157	<i>βψξ'</i>	= 2760

<i>MS.</i>		<i>Στίχοι.</i>	
G. H. K. S. 4, 6, 18, 28, 41, 45, 46, 48, 50, 116, 117, 122, 128, 131, 153, 202, 237, 241, 246, 252, 261, 263, 267, 277, 280, 290, 292, 347, 348, 387, 388, 435, and l, m, n,	} $\beta\omega'$		= 2800
264, 273			
		$\gamma\omega\kappa\zeta'$	= 3827
<i>John.</i>			
4		$\alpha\tau'$	= 1300
157		$\alpha\gamma\lambda'$	= 1930
20		$\beta\iota'$	= 2010
9, 13, 124, 163, 174, 175, 345, 367, 427		$\beta\kappa\delta'$	= 2024
A. 164, 262, 300, 376		$\beta\sigma\iota'$	= 2210
G. H. S. 4, 6, 7, 18, 28, 41, 45, 46, 48, 50, 122, 128, 131, 167, 202, 241, 252, 261, 263, 267, 277, 280, 290, 292, 301, 347, 348, 387, 388, and l, m, n,	} $\beta\tau'$		= 2300

These are the principal MSS data, and it must be owned that their discordance is a formidable objection to the assumption that the Gospels are measured in precisely the same way as the Epistles. A number of the data are evidently corruptions; in Matthew $\beta\omega\xi$ is probably altered from $\beta\phi\xi$; in Luke $\beta\chi\zeta$ is obtained by omission of a single letter from $\beta\chi\omicron\zeta$, and so on.

In the Synoptic Gospels, the main body of the MSS divides into two groups, of which one gives the $\sigma\tau\acute{\iota}\chi\omicron\iota$ to the nearest hundred, and the other goes more into detail. When we find Matthew to consist of 2560 or 2600, Mark of 1616 or 1600, Luke of 2740 or 2800, we may regard the larger group of MSS as less accurate than the other. The problem is now much simplified.

In the Gospel of John the numbers are difficult to arrange; it is almost impossible to believe that the book contains 2300 verses, and we may perhaps set the result again with the group of MSS that gives 2024. This is the number given by Scrivener. For the present, then, let us adopt the numbers 2560, 1616, 2750, 2024 for the four Gospels. We must now divide the text of Westcott and Hort and the Textus Receptus into 16-syllabled rhythms as before, firstly, without abbrevia-

tions of text, and secondly, with the same abbreviations as were previously noted. We have then :

	<i>MSS.</i>	<i>W. & H.</i>	<i>W. & H. (abbr.)</i>	<i>Text. R.</i>	<i>Text. R. (abbr.)</i>
Matthew	2560	2433	2397	2492	2456
Mark	1616	1511	1494	*	*
Luke	2750	2591	2551	*	*
John	2024	1948	1903	*	*

In every case we find the text of Westcott and Hort in defect by 100 or 150 verses, and the case is not much better with the Textus Receptus, which is also considerably in defect. Seeing, then, that the longest and shortest edited texts alike disagree with the data, we have no alternative but to assume a shorter measuring line. Let us try a *στίχος* of fifteen syllables¹. We have this time :

	<i>MSS.</i>	<i>W. & H.</i>	<i>W. & H. (abbr.)</i>	<i>Text. R.</i>	<i>Text. R. (abbr.)</i>
Matthew	2560	2595	2557	2658	2619
Mark	1616	1611	1592	*	*
Luke	2750	2764	2720	*	*
John	2024	2077	2029	*	*

A comparison between the different columns shows that the agreement is close between the assumed traditional data and the result of measuring 15-syllable rhythms with the usual abbreviations.

This concordance of results is very close in Matthew and John; and, if we add to the reckoning in Mark the 25 hexameters which represent the last twelve verses of that Gospel, the agreement becomes as close in this case also. We must admit, therefore, that the ancestry of the MSS quoted recognizes these twelve verses as part of the Gospel, while the contrary is testified by *Λ*, which reads 1590, of which *αφς'* and *αφν'* are evidently corruptions.

Similar reasoning shows that the *pericope de adultera* was not included in the standard copies of St John. With regard to the Gospel of Luke the matter is more complicated. At

¹ This assumption would imply a of time; and, generally speaking, the later date for the reckonings, as the longer verse is the earlier.
verse-limits contract with the advance

first sight we might be tempted to assume that the usual abbreviations were wanting, but a little further consideration inclines to believe that the irregularity in the figures is due to the fact that every step in the genealogy as given in Luke is marked as a separate *στίχος* in the most ancient MSS. And this feature is probably derived from the autograph itself, in which the continuous writing would have made the reading of the genealogy peculiarly difficult. I believe it will be found that in general short lines in a MS written stichometrically are not counted; but this can hardly be the case with a long document like the genealogy. We must then either count the separate clauses as half-verses or whole ones. In the former case we must increase our count in Luke by about 22 verses, and in the latter by about 59. This will make the number of verses to be 2744 or 2779 in an abbreviated text; and the former of these numbers approaches very closely to the traditional 2750. It will be remembered that we include in our count all those passages which Westcott and Hort enclose in double brackets.

A similar process applied to the genealogy in Matthew would add about 7 or 8 verses; making the abbreviated text in Matthew to be 2565 verses.

To sum up the results of our inquiry in the Gospels: We selected from the stichometric annotations those numbers which had the fairest show of accurate preservation; after which by dividing a modern edited text in a certain manner we found that this text was only five verses in excess in Matthew, if it was in excess at all; that it was within a single verse of the traditional number in Mark, and not more than five verses in excess in John. In the Gospel of Mark we were obliged to admit the last twelve verses to make up the reckoning, and for the same reason to reject John vii. 53—viii. 11. In Luke we were uncertain as to the relation between the measured and traditional texts; the longer of our two available results required us to reject most of those passages which Westcott and Hort designate as Western non-interpolations, and which amount to something under 25 verses. This would leave the measured text some 9 verses in excess of the traditional.

In no case does the Textus Receptus afford us a reasonable concordance with the traditional figures. The later MSS thus appear as witnesses against themselves.

This is perhaps as near as we can expect to come in the matter of agreement between tradition and computation at present. It must be remembered that if our hypothesis of an abbreviated text be correct, it will become necessary to examine the forms of abbreviation proper to the separate Gospels. We have only employed four of the most common of them; and the remaining cases will produce a further very slight reduction. If, for example, the word *πνεῦμα* is abbreviated to *πνα* we ought to deduct one verse for every fifteen or sixteen times that this word occurs. It is therefore very likely that an even more complete agreement may exist. But for the present let it suffice to have shown that the compass of the text of Westcott and Hort does not vary normally more than one-fourth per cent. from the early copies which the stichometry regards. The value of the results deduced (as for the doubtful sections in Mark and John) cannot of course be higher than the worth of the oldest MSS involved in the tradition.

Incidental difficulties will arise in the working out of the hypotheses, with regard to the manner of syllabic division in early centuries. For instance, the question arises as to whether, in MSS, *ὕδς* is a dissyllable or trisyllable, etc.

All the canonical books of the New Testament have now been discussed, with the exception of the Apocalypse. For this there are no data of any importance in the MSS, but the stichometric table of Nicephorus gives 1400. By actual enumeration we find 1224 hexameters, unabbreviated, which does not agree with the table.

Old Testament Stichometry.

For the study of the Septuagint and Apocryphal books, the chief authority is the stichometric table of Nicephorus, previously alluded to; the same table is exhibited in a Latin translation of Anastasius. In almost every instance the number of verses is given by the approximate hundreds. A stichometric table is also given in the Codex Claromontanus. Other data

referred to by M. Graux are Cod. reg. 1888 Catena in Hepta-teuchum, Codex Escorialensis Ω—1—13, etc. M. Graux employs these numerical data to establish the equivalence of the *στίχος* and the average hexameter.

The table of Nicephorus has been reprinted in Credner, "Zur Gesch. d. Kan." 119 sqq.; Migne's "Patrologia" 100, col. 1055 sqq., and Westcott "On the Canon," pp. 560—2. It is therefore unnecessary to repeat it; but it is well to notice that Westcott hardly does justice to the intention of stichometry when he says (p. 520) that stichometries are no more than tables of contents. If the table of Nicephorus had been a little less approximate in its numbers and in a better state of preservation it would have been valuable indeed, and it well deserves a careful examination in the light of the previous researches. As it stands, it sufficiently verifies (which no mere table of contents would do) the hypothesis of the hexameter line-unit, and it is incidentally interesting as throwing light on the compass of some lost apocryphal books. For instance, the prophecy of Eldad and Modad, which is quoted in Hermas' Vision II 3, is stated to be 300 verses, or almost as long as the Epistle to the Ephesians. So also the Apocryphal Ascension of Moses, to which Euthalius¹ and Origen² refer the quotation in Jude 9, is a work twice as long as the Epistle to the Hebrews. To the same source Euthalius³ refers Gal. VI 15, *οὔτε περιτομή τι ἔστιν οὔτε ἀκροβυστία ἀλλὰ καινὴ κτίσις*, which throws light upon the reading of Codex B and allied documents which omit ἐν *χω* *ιν*. I suppose we may assume the genuineness of these quotations, for either Euthalius verified them himself, or being, as he says, merely a novice, and having no originality beyond what we may call a printer's or editor's originality, he referred to some earlier writer; a supposition which by no means detracts from the value of the quotations. And who shall say that the greater part of Euthalius's work does not date from the time and school of Origen himself?

¹ Zacagni, p. 485.

² Orig. de Princip. iii. 2.

³ Zacagni, p. 561.

SUPPLEMENTARY NOTES.

On the Cheltenham Stichometry.

An important discovery was made by Prof. Mommsen in 1885 which has confirmed in the most decided manner the major part of the investigations which are summed up in the previous pages. Accordingly I have printed below, for the use of the student who is interested in stichometric data, the catalogue of the Canonical books and of the writings of Cyprian which Prof. Mommsen discovered in the MS 12266 of the Phillipp's Collection at Cheltenham. For Mommsen's own article the reference must be made to the 21st Volume of *Hermes (Zur lateinischen Stichometrie)*; and the subject will also be found exhaustively treated in *Studia Biblica*, Vol. III. by Prof. Sanday and Mr C. H. Turner. The interesting thing is that the stichometry contained in the Cheltenham table can be referred back, perhaps to as early a date as the year 359 A.D. The writer who made the table expressly defines his unit of measurement as a sixteen-syllabled hexameter of Vergil. Whether the whole of the measurements are his own is not perfectly clear; or whether he measures his Cyprian text and takes his Bible measures from elsewhere; these latter agree closely with the numbers given for the books of the Bible in Vulgate MSS, but they can hardly have been made for the Vulgate; and I believe no one has yet taken the trouble to determine what would be the average proportion of the measure of a Latin book to the Greek original from which it is translated. Of one thing we may be sure that it was not

uncommon to take over a Greek stichometry into a Latin text; as, for example, in the Codex Sangermanensis (g') of St Matthew we have a stichometry which is easily seen to be borrowed from Euthalius. However, here is the Cheltenham table.

Incipit indiculum veteris testamenti qui sunt libri cannonici sic

Genesis $\overline{\text{ver n}}$
 Exodus $\overline{\text{ver n}}$
 Numeri $\overline{\text{ver n}}$
 Leviticum $\overline{\text{ver n}}$
 Deuteronomium $\overline{\text{ver n}}$
 Ihu Nave $\overline{\text{ver n}}$
 Iudicum $\overline{\text{ver n}}$
 fiunt libri VII $\overline{\text{ver n}}$ XVIII C
 Rut $\overline{\text{ver cci}}$
 Regnorum liber I $\overline{\text{ver iiccc}}$
 Regnorum liber II $\overline{\text{ver iicc}}$
 Regnorum liber III $\overline{\text{ver iid}}$
 Regnorum liber IIII $\overline{\text{ver iiccl}}$
 fiunt versus VIII D
 Paralipomen $\overline{\text{lib i iixl}}$
 $\overline{\text{lib ii ver iic}}$
 Machabeorum $\overline{\text{lib i ver iiccc}}$
 $\overline{\text{lib ii ver } \infty \text{ dccc}}$
 Iob $\overline{\text{ver } \infty \text{ dccc}}$
 Tobias $\overline{\text{ver dcccc}}$
 Hester
 Iudit $\overline{\text{ver } \infty \text{ c}}$
 Psalmi David $\overline{\text{cli ver v}}$
 Salomonis $\overline{\text{uer vd}}$
 profetas maiores $\overline{\text{ver xviccclxx}}$ numero IIII
 Y
 *saia $\overline{\text{uer iidlxxx}}$

Ieremias $\overline{\text{uer}} \overline{\text{III}}\overline{\text{CCCC}}\overline{\text{L}}$

Daniel $\overline{\text{ver}} \infty \overline{\text{CCCL}}$

Ezechiel $\overline{\text{ver}} \overline{\text{IIIDCCC}}$

profetas $\text{XII} \overline{\text{IIIDCCC}}$

erunt omnes $\overline{\text{ver}} \overline{\text{n}} \overline{\text{LXVIIIID}}$

Sed ut in apocalypsis Iohannis dictum est: 'vidi XXIIII seniores mittentes coronas suas ante thronum' maiores nostri probant hos libros esse canonicos et hoc dixisse seniores.

Item indiculum novi testamenti

euangelia IIII Matheum $\overline{\text{vr}} \overline{\text{IIDCC}}$

Marcus $\overline{\text{ver}} \infty \overline{\text{DCC}}$

Iohannem $\overline{\text{vr}} \infty \overline{\text{DCCC}}$

Luca $\overline{\text{vr}} \overline{\text{IIICCC}}$

fiunt omnes versus $\overline{\text{x}}$

eplae Pauli $\overline{\text{n}} \overline{\text{XIII}}$

actus aplorum $\overline{\text{ver}} \overline{\text{IIIDC}}$

apocalypsis $\overline{\text{ver}} \infty \overline{\text{DCCC}}$

eplae Iohannis III $\overline{\text{ur}} \overline{\text{CCCCL}}$

una sola

eplae Petri II $\overline{\text{ver}} \overline{\text{CCC}}$

una sola

Quoniam indiculum versuum in urbe Roma non ad liquidum¹, sed et alibi avariciae causa non habent integrum, per singulos libros computatis syllabis posui numero XVI versum Virgilianum omnibus libris numerum adscripsi.

Indiculum Cecili Cipriani

ad Donatum $\overline{\text{CCCCX}}$

ad Virgines D

de lapsis $\overline{\text{DCCCCLXXX}}$

de opere et elemosyna $\overline{\text{DCLXX}}$

ad Demetrianum $\overline{\text{DXXXV}}$

de aeclesiae unitate $\overline{\text{DCCL}}$

de zelo et liuore $\overline{\text{CCCCXX}}$

de mortalitate $\overline{\text{DL}}$

¹ Cod. aliqui dum.

de patientia DCCCLX

ad Fortunatum DCCXL

de domini oratione

ad Quirinum libri III : I DL

II DCCCL

III DCCLXX

ad Antonianum DCL

de calice dominico CCCCL

de laude martyrii DCCCXXX

ad confessores martyrum CXL

Moysi et Maximo LXX

ad eosdem alia CXX

de precando deum CXC

ad clerum LIIII

Aurelio lectori pro ordinato CXL

Celerino C

ad Iobianum DL

ad Quintum C

Ade $\overline{\text{prb}}$ XIII $\overline{\text{n.}}$ XXX

Ade $\overline{\text{prb}}$ $\overline{\text{n.}}$ CXX

sententiae episcoporum DXX

ad Pompeium CCXC

ad Stephanum C

ad Fidum CVI

ad Magnum CCLXXXIIII

ad Martialem CCCL

Luci ad Eucratium XL

Felici et ceteris XX

de Numidia conf. XXX

ad Florentium CCVII

ad $\overline{\text{presb}}$ LXXII

ad eosdem et $\overline{\text{diac}}$ XXV

ad clerum $\overline{\text{urb}}$ LXX

Romani resc CCXV

adversus Iud CCXC

ad Cornelium VIIII ∞ CVIII

vita Cypriani DC

fiunt omnes versus $\overline{\text{r}}$ XVIII D

The Partial Stichometry of the Vatican Codex.

I believe the first who drew attention to the fact that there was a Partial Stichometry in certain books of the Old Testament in the Vatican Codex, was Prof. Nestle: his observations will be found in a fly-sheet printed at Tübingen (*Separatabdruck a. d. Corresp.-Blatt für die Gelehrten und Realschulen* 1883). It is however fair to state that in the Roman edition of the MS the editors have recorded in their Appendix the existence of these marginal centenary numbers; nor ought we to conclude that they were wholly ignorant of their meaning.

The signs used to represent the successive hundreds of verses are the conventional Greek letters (900 being represented by Ϡ for Sampi), with the exception of the characters for 1000 (Ϡ), 2000 (Ϡ), and 3000 (Ϡ), which are unknown to me except as occurring in this MS.

As the data are important for the relation of the Vatican MS to a previously existing stichometrically reckoned manuscript, I tabulate the figures, as far as I have been able to gather them from the notes of the Roman editors, as follows:

i. Reg.

No. of $\sigma\tau\iota\chi\alpha$	Page	Col.	Line	No. of Lines of Cod. B.
0	309	2	1	
100	311	1	7	= 227
200	312	3	2	= 215
300	314	2	14	= 232
400	316	1	11	= 217

No. of στίχοι	Page	Col.	Line	No. of Lines of Cod. B.
500	317	3	12	= 221
600	319	1	8	= 172
700	321	1	6	= 262
800	322	3	6	= 220

cetera desunt.

Probably we should correct in the foregoing to

600	319	2	8	= 216
700	321	1	6	= 218.

From the complete table we have average
length of 100 verses

= 220 lines of B
(strictly 219·5).

ii. Reg.

		Page	Col.	Line	Lines of B.
0		354	1	1	
100	στίχοι	355	3	36	= 246
200	„	357	3	27	= 243
300	„	359	3	11	= 236
400	„	361	2	36	= 235
500	„	363	2	4	= 220
600	„	364	3	3	= 167
700	„	366	2	16	= 223
800	„	367	3	15	= 167
900	„	369	2	32	= 227
1000	„	371	2	2	= 222
1100	„	373	1	14	= 222
1200	„	374	3	27	= 223
1300	„	376	2	38	= 221
1400	„	378	2	18	= 232
1500	„	379	3	39	= 189
1600	„	382	1	31	= 286
1700	„	384	1	3	= 224
1800	„	385	3	29	= 236
1900	„	387	3	3	= 226
2000	„	389	2	23	= 230
2100	„	391	1	33	= 220
2200	„	393	1	5	= 224
2300	„	394	3	8	= 213

iii. Reg.

		Page	Col.	Line		Lines of B.
0		395	1	1		
100	στίχοι	396	3	19	=	228
200	"	398	2	26	=	217
300	"	400	2	2	=	228
400	"	402	1	19	=	227
500	"	403	3	29	=	220
600	"	405	3	2	=	225
700	"	407	2	11	=	219
800	"	409	1	23	=	222
900	"	410	3	33	=	222
1000	"	412	2	37	=	214
1100	"	414	2	4	=	219
1200	"	416	1	9	=	215
1300	"	417	3	11	=	212
1400	"	419	2	15	=	214
1500	"	421	1	25	=	220
1600	"	422	3	28	=	213
1700	"	424	2	33	=	215
1800	"	426	1	32	=	209
1900	"	427	3	31	=	209
2000	"	429	2	7	=	186
2100	"	431	1	16	=	219
2200						
2300	"	434	1	38	=	400
2400	"	435	3	35	=	207
2500	"	437	2	37	=	212
2600	"	439	2	1	=	216
2700	"	440	3	27	=	194

iv. Reg.

0		442	2	1		
100						
200	"	445	3	7	=	426
300	"	447	2	10	=	213
400	"	449	1	11	=	211
500	"	450	3	12	=	211

No. of verses.		Page	Col.	Line.		Lines of B.
600	στίχοι	452	2	11	=	209
700	„	454	1	11	=	210
800	„	455	3	16	=	215
900	„	457	2	10	=	204
1000	„	459	1	16	=	216
1100	„	460	3	25	=	219
1200	„	462	2	22	=	207
1300	„	463	3	35	=	223
1400	„	465	2	39	=	214
1500	„	467	2	5	=	218
1600	„	469	1	11	=	216
1700	„	470	3	8	=	207
1800	„	472	2	13	=	215
1900	„	474	1	12	=	209
2000	„	475	3	11	=	209
2100	„	477	2	7	=	206
2200	„	479	1	8	=	211

ceterae desunt.

Iesaia.

0		1002	3	1		
100	στίχοι	1004	2	25	=	225
200						
300	„	1008	1	32	=	469
400						
500	„	1011	2	38	=	426
600	„	1013	1	41	=	213
700	„	1014	3	42	=	211
800	„	1016	3	6	=	216
900						
1000	„	1020	1	25	=	439
1100	„	1021	3	29	=	214
1200						
1300						
1400	„	1027	1	23	=	666

No. of verses.		Page	Col.	Line.		Lines of B.
1500	στίχοι	1028	3	15	=	202
1600	"	1030	2	19	=	214
1700	"	1032	1	27	=	218
1800	"	1033	3	30	=	213
1900	"	1035	2	32	=	212
2000	"	1037	1	38	=	216
2100						
2200	"	1040	3	12	=	436
2300	"	1042	2	13	=	211
2400	"	1044	1	16	=	213
2500	"	1045	3	24	=	218
2600	"	1047	2	16	=	202
2700	"	1049	1	5	=	199
2800	"	1050	2	38	=	201
2900	"	1052	1	38	=	210
3000	"	1053	3	42	=	214
3100	"	1055	2	26	=	194
3200	"	1057	1	28	=	212
3300						
3400	"	1060	2	13	=	405
3500	"	1062	1	12	=	209

ceterae desunt.

The foregoing figures furnish some interesting material for speculation as to the character of the MS from which the Vatican MS is derived. Perhaps we may obtain some light in this direction when we come to write the history of that famous MS.

Meanwhile it is interesting to observe that the measurements confirm the theory that the line of Codex B is a slightly curtate half-hexameter.

We see also that in the first book of Kings where the scribe was writing 44 lines to the page, the effect of the arrangement of the matter was to make every five columns of the text equivalent to 100 hexameters. There is some method in this; was it for the more easy calculation of his pay, or for some more occult cause?

Fixity of the Ancient Verse Measurement.

It is worthy of notice that the fixity of the ancient *στίχος* was pointed out by Michaelis; as the following extract will show :

“*Στίχοι* were only lines which contained a certain number of letters and therefore often broke off in the middle of a word.”

(Marsh's *Michaelis*, II 526.)

Michaelis expressed the wish that the line-arrangement had been preserved, so as to form the verses of the text and their reckoning not from the sense but from the number of letters (*Ibid.* II 328, quoted by Granville Penn in his *Annotations*, ii. 88).

NOTE

on the ῥήματα which are reckoned in Biblical MSS.

In Scrivener's Introduction to the New Testament (ed. 3, p. 62) we are told that "besides the division of the text into *στίχοι* or lines, we find in the Gospels alone another division into *ῥήματα* or *ῥήσεις*, 'sentences,' differing but little from the *στίχοι* in number. Of these last the precise numbers vary in different copies, though not considerably, etc." And on p. 66 we find the following statistical statement :

Matthew	has	2522	ῥήματα
Mark	"	1675	"
Luke	"	3803	"
John	"	1938	"

These figures are derived from MSS. of the Gospels, in which we frequently find the attestation given both of the *ῥήματα* and the *στίχοι* : e.g. Cod. Ev. 173 gives for

Matthew *βφκβ' ῥήματα*
βφξ' στίχοι,

while the corresponding figures for Mark and Luke are

Mark *αχοε' } and Luke γωγ' }*
αχδ' } βψν' }

No explanation, as far as I know, has ever been given of these curiously numbered *ῥήματα*. The word is, certainly, a peculiar one to use, if short sentences are intended, such as are commonly known by the terms 'cola and commata.'

It has occurred to me that perhaps the explanation might lie in the fact that *ῥήμα* was here a literal translation of the

Syriac word ܩܬܝܚܐ. Let us then see whether ܩܬܝܚܐ is the proper word to describe a verse, either a fixed verse, like a hexameter, or a sense-line. A reference to Payne Smith's Lexicon will shew that it may be used in either of these senses: for example, we are told that it is not only used generally of the verses of Scripture, but that it may stand for *comma*, *membrum versus*, *sententia brevior quam versus*, *στίχος*, Schol. ad Hex. Job ix. 33; ܩܬܝܚܐ ܬܝܬ Tit. ib. Ps. ix. ܩܬܝܚܐ ܕܬܠܬ, ib. Ex. xxx. 22 marg.: insunt in Geneseos libro ܩܬܝܚܐ MMDIX, coloph. ad Gen., it. c. s. B. 2 et sic ad fin. cuiusque libri; in libris poeticis sententia est hemistichio minor, e.g. in Ps. i. insunt versus sex sed ܩܬܝܚܐ; in Ps. ii. versus duodecim, sed ܩܬܝܚܐ.

It seems, therefore, to be used in Syriac much in the same way as *στίχος* in Greek.

Now there is in one of the Syriac MSS. on Mount Sinai (Cod. Sin. Syr. No. 10) a table of the Canonical books of the Old and New Testaments with their measured verses. We will give some extracts from this table; but first, notice that the Gospels are numbered as follows:

Matthew	has	2522	ܩܬܝܚܐ
Mark	„	1675	„
Luke	„	3083	„
John	„	1737	„

and the whole of the four Evangelists 9218, which differs slightly from the total formed by addition, which, as the figures stand, is 9017.

On comparing the table with the numbers given by Scrivener from Greek MSS., viz.

Matt.	=	2522
Mark	=	1675
Luke	=	3803
John	=	1938,

we see at a glance that we are dealing with the same system; Luke should evidently have 3083, the Greek number

being evidently an excessive one; and if we assume that John should be 1938 the total amounts exactly to the 9218 given for the four Gospels.

This is very curious, and since the *ῥήματα* are now proved to be rightly equated to ܠܡܬܐܬܐ, and this latter word is a proper word to describe a verse or *στίχος*, the *ῥήματα* appear to be a translation of a Syriac table.

Perhaps we may get some further idea about the character of the verses in question by turning to the Sinai list, which is not confined to the Gospels, but ranges through the whole of the Old and New Testaments.

The Stichometry in question follows the list of the names of the seventy disciples, which list is here assigned to Irenaeus, bishop of Lugdunum. After which we have

ܠܡܬܐܬܐ ܠܡܬܐܬܐ ܠܡܬܐܬܐ ܠܡܬܐܬܐ
 ܕܡܬܐܬܐ ܠܡܬܐܬܐ ܠܡܬܐܬܐ : ܠܡܬܐܬܐ
 ܕܡܬܐܬܐ : ܠܡܬܐܬܐ ܕܡܬܐܬܐ
 ܠܡܬܐܬܐ ܕܡܬܐܬܐ ܠܡܬܐܬܐ ܠܡܬܐܬܐ
 : ܠܡܬܐܬܐ

i.e.	Genesis has	4516 verses
followed by		
	Exodus	3378 "
	Leviticus	2684 "
	Numbers	3481 "
	Deuteronomy	2982 "
	Total for the Law	17041 " (sic!)
	Joshua	1953 "
	Judges	2088 "
	etc.	

When we come to the New Testament, it appears that the verses which are there reckoned cannot be the Greek equivalent hexameters: for we are told that Philemon contains 53 verses, and the Epistle to Titus 116, numbers which are in excess of

the Euthalian reckoning, 38 and 97 verses respectively, and similarly in other cases. It may, I think, be suspected that the lines here reckoned are sense lines, and that this is therefore the meaning to be provisionally attached to the *ρήματα* of the MSS.

The interest of the Sinai stichometry is not limited to this single point: its list of New Testament books is peculiar in order and contents. There seem to be no Catholic Epistles, and amongst the Pauline Epistles, Galatians stands first; note also the curious order Hebrews, Colossians, Ephesians, Philip-pians.

Some important conclusions follow from the identification of the *ρήματα* of the Gospels with a Syriac Stichometry, in regard to the existence of a Syriac element in the Gospels which give the reckoning of the *ρήματα*. We shall have something to say on this in another place.

APPENDIX.

ON THE COMMON ORIGIN OF CODICES **Æ** AND B.

(A lecture delivered at Mansfield College, Oxford, on June 6, 1893.)

THE ORIGIN OF CODICES \aleph AND B.

THE subject of the present lecture is of interest only to a small circle of experts : but to them it is of great interest, inasmuch as the solution of the problem proposed is likely to have a reflex influence upon the general criticism of the New Testament, and in particular upon the text of the New Testament as edited by Westcott and Hort.

I have no idea of being able to make a complete solution of the problem in the course of a single presentation, but I shall state the questions involved, and point out certain directions in which the inquiry may be prosecuted.

The problem concerns itself with the life-history of the two oldest Biblical MSS., the Vatican Codex at Rome (Codex B of the New Testament notation) and the Codex Sinaiticus at St Petersburg (\aleph of the critical apparatus).

We are asked to determine as far as possible the time and place of production of the two codices, and in particular to examine whether there is any ground for the suspicion which has arisen that the two MSS. emanated from a common workshop and are of equal antiquity.

It may be premised that the two uncial MSS. in question, like nearly all the uncial MSS. with which we are acquainted, are destitute of direct chronological indications, so that they have to be dated by subsidiary considerations, such as spellings and shapes of letters, presence or absence of breathings and accents, presence or absence of marks for the division of the text, and a number of minor considerations. The whole matter of the dating of uncial MSS. is in great uncertainty, and it is quite conceivable that some further discoveries in the East might throw doubt on a number of things which are now regarded as well-established. With regard to the two MSS. in question it has been recognised by the experts that the two books must belong very nearly to the same period, and that this period is that of the calligraphic revival which naturally took place

when vellum was substituted for papyrus in the ecclesiastical usage. If they are right in this, they are also probably right in assigning the two codices to the fourth century.

Attempts have been made to shew that there is an interval of time between the two MSS. It is well to be sceptical over such a matter as the exact chronological coincidence of two MSS.: consequently we need not regret that the late Dean Burgon took pains to prove that the Sinaitic MS. was half a century or a century later than its companion or rival. He was opposed in a close and careful examination by that most minute, painstaking and conscientious scholar, the late Ezra Abbot of Harvard; and I think it will be generally agreed that Dr Abbot did a good deal to uphold Tischendorf's later view that the MSS. were of the same age. You will find the paper in which the question is discussed in the collected volume of Dr Abbot's writings, and I do not need to go over the ground in detail, for the following reason.

It is generally held to-day that Tischendorf was justified in recognizing in the Sinaitic Codex the traces of the same hand as wrote the New Testament portion of the Codex Vaticanus. As this is a most important point, and one that settles, if it be correctly inferred, both the unity of time and of place in the two Codices, I spend a few moments in the statement of the case.

According to Tischendorf there are in the Codex Sinaiticus six cancel leaves of the New Testament which have been rewritten by another hand, the hand namely which transcribed the books of Tobit and Judith and part of the fourth book of Maccabees: that is to say, one of the scribes of the Old Testament wrote six cancel leaves in the new. He also wrote the first verses of the Apocalypse. The evidence for this is Tischendorf's eyes and Tischendorf's judgment. The hands are apparently the same, and there are concurrent peculiarities in spelling, etc., which persuade the judgment to finally identify. There is nothing unreasonable in the occasional change from one scribe to another when they are occupied on the same book. It is *à priori* likely enough. On such a matter Tischendorf's opinion is of the greatest weight; he did not know much about papyrus hands or cursive hands, but he knew more about vellum-uncial hands than anybody else. Consequently most people, even if they have not seen the Sinaitic Codex, accept his judgment. But after Tischendorf had come to this conclusion he took the argument a step further, and said that the hand in question was the

same hand that wrote the New Testament portion of the Vatican Codex. The argument is as before a paleographical one and depends on shapes of letters, spellings, etc.

Dr Hort, who completely accepted Tischendorf's judgment, remarked that its accuracy was confirmed by the fact that the six cancel leaves were conjugate leaves in the quire, so that they were really three double leaves. This is as it should be, for in a MS. in which the quire is the foundation, one cannot cancel a single leaf. The leaves in question are the 10th and 15th, the 28th and 29th, the 88th and 91st: of these the 10th and 15th are in the 2nd quire the 2nd and 7th leaves; the 28th and 29th are the middle leaf of the fourth quire; the 88th and 91st are the third and sixth of the twelfth quire (one leaf having been lost in Luke, and one quire in John being a ternion).

I find it very hard to believe that Tischendorf can have examined the MS. and not have noticed that the leaves in question were conjugates. In fact it is the first thing one would do on finding a leaf in a peculiar hand, to turn to the conjugate and see if it was the same.

However, if he did not notice this peculiarity and some lesser ones, his judgment is confirmed by observations made by others. And at all events it is commonly believed that he was right in his statements.

The interest of the question is much intensified by the fact that one of the cancelled leaves is that which contains the closing passages of S. Mark, where both \aleph and B shew a remarkable omission. The coincidence is a curious one, and many people, naturally enough, refuse to believe that it is accidental. They say we have the scribe of B twice over for the omission, and not two separate authorities.

We pass on to the next question, namely, the determination of the common workshop from which the two MSS. emanated.

Those who do not accept Tischendorf's judgment about the hands will probably assign the MSS. to different local origins: thus Ceriani is said to have referred \aleph to Palestine, and Cod. B to Magna Grecia. But on what grounds I have never seen it stated. Anything, however, that such an independent and learned man as Ceriani says is deserving of attention.

But those who accept the Tischendorf identification will go a step further, and try to assign the common origin: thus Dr Hort says in his Introduction that he is inclined to believe that both of the MSS. were written in the West, probably at Rome.

The reasons which he gives for this conclusion are mainly as follows.

"Some Western or Latin influence is very clearly marked (in \aleph) in the usual or occasional spellings of proper names, such as 'Ισακ and 'Ισραηλ[ειτης] or 'Ισδραηλ[ειτης]In B Western indications are fainter than in \aleph but not absent. The superfluous euphonic τ is sometimes inserted in 'Ισραηλ[ειτης] but only in Acts, apparently implying the presence of Western or Latin influence in the scribe of that manuscript of Acts which was copied by the scribe of B.....

Again, it is remarkable that the principal Latin system of division of the Acts, found in the Codex Amiatinus and, slightly modified, in other Vulgate MSS. is indicated by Greek numerals both in \aleph (with large irregular omissions) and in B, but is otherwise unknown in Greek MSS. and literature. The numerals were apparently inserted in both MSS., certainly in \aleph , by very ancient scribes, though not by the writers of the text itself, B indeed having antecedently a wholly different set of numerals. The differences in detail are sufficient to shew that the two scribes followed different originals; the differences of both from the existing Latin arrangement are still greater, but too slight to allow any doubt as to identity of ultimate origin. The coincidence suggests a presumption that the early home, and therefore not improbably the birthplace, of both MSS. was in the West.....

Taking all kinds of indications together, we are inclined to surmise that B and \aleph were both written in the West, probably at Rome; that the ancestors of B were wholly Western (in the geographical, not the textual sense) up to a very early time indeed; and that the ancestors of \aleph were in great part Alexandrian, again in the geographical, not the textual sense."

The next contribution to the subject was, I believe, a paper of my own, read before the University Philological Association at Baltimore on January 7th, 1884, of which an abstract was printed in the University Circulars for March of the same year. In this paper I maintained the thesis that both MSS. were written in the Library at Cesarea.

My starting-point was the fact that the original capitulation of B in the Acts was the same as the 36 chapters found at the close of Euthalius' edition of the Acts, and that there was reason for connecting Euthalius with Cesarea.

I then drew attention to the close connection between \aleph and B

in the matter of capitulation, etc.; and shewed that there was a connection between \aleph and certain Cesarean MSS. which had been used to correct its text, and having thus tied up in one bundle B and Euthalius and \aleph and Pamphilus, I pointed out a curious case of scribe's subjectivity in the text of \aleph in Matt. xiii. 54, where the text should read *εἰς τὴν πατρίδα*, but actually has *εἰς τὴν Ἀντιπαρίδα*. As it seemed to me impossible that this should be an assimilation to a passage in the Acts where Ἀντιπαρίς is mentioned, any more than to passages in Josephus, I referred it to the aberration of a scribe's brain, as he sat writing in the neighbouring city of Cesarea.

It is to my mind much the same as if a printed text of Shakespeare should put into Mark Antony's speech the line

"I come to Banbury Caesar, not to praise him."

Such a text would probably be the work of Oxford printers.

Such was, in brief, the argument which I presented for a Cesarean origin. It does not necessarily involve the acceptance of Tischendorf's judgment about the hands.

As I have said, the paper was only printed in abstract, and its value, if any, could hardly be estimated from the summary.

It seems to have pleased Dr Cornill, who, in his edition of Ezekiel, published in 1886, had come to the conclusion that the text of B was an extract from the Hexapla of Origen, made from the copy at Cesarea by the omission of the portions athetized by asterisks. He was naturally gratified at the unexpected confirmation which I lent him. And this, as far as I know, is all that has been done on the subject. If there is anything more of importance that has appeared, on one side or on the other, it has not come under my eyes. Now in returning recently to the question, it seemed to me that the central point of the discussion is the decision as to whether Codex B does or does not contain a system of chapters which were made by Pamphilus of Cesarea or, at all events, were found in his library; if it does, the time of the production of Codex B is certainly so near to the age of Pamphilus that it would be unlikely that the connection was made at Rome, for there would not be time for the new capitulations to have circulated; and indeed it would hardly be likely that the chapters would have been inserted except at Cesarea itself.

But the determination of this question requires that we should know something more about Euthalius, who shares the chapters in

question with Codex B. Is there any means of finding out something fresh historically with regard to this great Masorete of the New Testament? For perhaps we can write a little bit of his life, and settle the question of his connection with Cesarea. In that case we can conduct the argument for a common origin of \aleph and B to a conclusion, independently of Tischendorf's judgment about the hands in the Manuscripts. Let us see whether anything then can be said on that point. Who was Euthalius, and when and where did he write?

The Prologues of Euthalius.

Those who are familiar with the early printed editions of the New Testament or with its manuscript tradition will remember how often we find the text of the Acts and Epistles accompanied by a series of prologues and arguments, designed to assist the reader to a right view of the documents which he is studying.

For example if we take up the Complutensian Polyglott, we shall find prefixed to the Pauline Epistles an *Ἀποδημία τοῦ ἁγίου παύλου τοῦ ἀποστόλου* followed by a notice by Euthalius the Deacon *περὶ τῶν χρόνων τοῦ κηρύγματος τοῦ ἁγίου παύλου*, etc. and successive arguments to all the Epistles (*ὑπόθεσις τῆς πρὸς Ῥωμαίους ἐπιστολῆς τοῦ ἁγίου παύλου τοῦ ἀποστόλου* and so on) and some notices in the shape of questions which are taken from Theodoret.

If we turn to the first edition of Erasmus we shall find attached to each of the Epistles (i) a Greek *ὑπόθεσις* (ii) a short Latin *argumentum*.

In the Stephen edition of 1550 the prefatory matter is more extensive; for example, there is prefixed to the Acts of the Apostles (1) *Ἀποδημία Παύλου τοῦ Ἀποστόλου*: (2) a tract referred to Euthalius the Deacon *περὶ τῶν χρόνων τοῦ κηρύγματος τοῦ ἁγίου Παύλου, καὶ περὶ τῆς διὰ μαρτυρίας αὐτοῦ τελειώσεως*: (3) *ἐκθεσις κεφαλαίων τῶν Πράξεων τῶν Ἀποστόλων* containing the contents of 40 chapters into which the Acts are divided. Similar prologues and chapter-tables will be found prefixed to the successive epistles. All of these Greek prefaces and prologues which we find in the three great editions referred to are supposed to form part of the apparatus of an edition of the Acts and Epistles brought out by an unknown father of the name of Euthalius, at a period not later than the fifth century.

They are a monument of the careful study bestowed on the text by Euthalius, whoever he was, and his predecessors, and often throw a great deal of light on the compass and contents as well as upon the interpretation of the later books of the New Testament. It is not therefore surprising that critics have been anxious to know more of these first Masoretes of the New Testament, and of Euthalius in particular; and to determine, if possible, something about the schools of theological learning to which they belonged.

The classical work on the subject is by Zacagni, librarian at the Vatican, who in the year 1698 published in his *Collectanea Monumentorum Veterum Ecclesiae Graecae ac Latinae* the complete apparatus of the Euthalian edition of the Acts and Epistles, accompanied by frequent references to manuscript authorities, and a fine preface which dealt with the greater part of the questions that attach themselves to the name of Euthalius¹. Zacagni's chief authority was a Vatican MS. belonging to the Regio-Alexandrine collection, but this was supplemented by the use of a MS. numbered 367 in the same Library, and a third, formerly in the Cryptoferrata Monastery, numbered 1650 by Zacagni.

Besides these he referred largely to a Codex Urbinas (No. 3) and to two Vatican copies numbered 363 and 1761 (the last of which he calls Lollinianus after its former owner). From these texts Zacagni edits what he describes, following the Regio-Alexandrine MS., as Εὐθαλίῳ ἐπισκόπου Σούλης ἑκθεσις κεφαλαίων τῶν πράξεων σταλείσα πρὸς Ἀθανάσιον ἐπίσκοπον Ἀλεξανδρείας, which contains the prefaces etc. belonging to the Acts and Catholic Epistles, followed by Εὐθαλίῳ ἐπισκόπου Σούλης πρόλογος προτασσόμενος τῶν δεκατεσσάρων ἐπιστολῶν Παύλου τοῦ ἁγίου Ἀποστόλου. It is certain that Euthalius treated the Pauline Epistles before he attempted the capitulation and summaries of the Acts and Catholic Epistles; so it would have perhaps been better to reverse the order in which the book was printed. But this is not really a matter of much importance. Let us see what is contained in Zacagni's edition: we have as follows for the Acts of the Apostles:

Πρόλογος τῶν Πράξεων: (author's preface).

Ἀνακεφαλαίωσις τῶν ἀναγνώσεων καὶ θείων μαρτυριῶν καὶ ὧν ἐκάστη τούτων στίχων τυγχάνει: (table of 16 lections and list of quotations from the Old and New Testaments).

¹ The greater part of this is reprinted in the 85th volume of Migne's Greek Patrology.

Ἀνακεφαλαίωσις θείων μαρτυριῶν: (quotations in detail, numbered).

Ὑπόθεσις τοῦ βιβλίου τῶν πράξεων τῶν Ἀποστόλων: (argument of the Acts).

Ἀποδημίαι Παύλου: (St Paul's journeys).

Ἐκθεσις κεφαλαίων: (preface on the division of the book into chapters).

Κεφάλαια τῶν Πράξεων: (chapters in detail with summary of contents, the chapters being 40 in number, followed by an explanation of the marginal numbers which will be found in the text of the Acts in his edition, and which relate to a different set of chapters, 36 in number).

The whole of these prologues and prefaces are reckoned stichometrically, and the text of the Acts is accompanied by a stichometry (both total and partial, the partial stichometry being the successive places where 50 hexameter-verses have been written by a transcriber). Similar editorial care is bestowed on the Pauline Epistles.

The importance of all this curious work must be obvious at a glance: the chapter-divisions described must be of great antiquity, for they clearly need not be Euthalius' invention, and even if they were, the system of chapters and lections developed in the fifth century is of great interest; the lists of quotations made in the Acts and Epistles frequently call our attention to the use of some Apocryphal book or even of the Greek poets; and the reckoning of the text from point to point in equivalent hexameters throws much light on the compass of the texts current in Euthalius' day. It becomes then interesting for us to try and determine how much of all this work belongs to Euthalius, and how much to earlier writers from whom he may have borrowed. And the first thing is to find out something more about Euthalius himself. And this is not easy, for no one seems to know anything about him beyond what he tells us himself: no one seems to know the town Sulce of which he was bishop; the MSS. are not even agreed that he was a bishop; the chief MS. of Zacagni calls him so, but Cod. Vat. 367 is content with writing *Εὐθαλίον Διακόνου Πρόλογος τῶν πράξεων*, while in other MSS. there is no name at all.

The dedication to Athanasius is supported by the occurrence of the words ἀδελφὲ Ἀθανάσιε in the text of the prologue; but since it has been held impossible to push back the date of Euthalius into the days of Athanasius the Great, it has been assumed that the person

meant is the younger Athanasius, and so the work of Euthalius on the Acts has been brought down later than the date 490 A.D.

This again has its difficulties, for a comparison with the portion of the text belonging to the Pauline Epistles shews that the writer reckons the number of years which have elapsed from the time of Paul's martyrdom to the year 458 A.D., more than 30 years before the time assumed for the production of the edition of the Acts. We are, therefore, obliged to regard the latter as the work of old age, and the former the product of his juvenile activity. Certainly there are some things which look that way, as, for instance, when in the preface to the Acts he speaks as having written his text of the Pauline Epistles when he was like an untrained young colt (*πρώτον δὲ οὖν ἔγωγε τὴν Ἀποστολικὴν βίβλον στοιχιδὸν ἀναγνούς τε καὶ γράψας, πρῶτην διεπεμψάμην πρὸς τινα τῶν ἐν Χριστῷ πατέρων ἡμῶν, μετρίως πεποιημένην ἐμοί, οἷά τις πῶλος ἀβαδῆς ἢ νέος ἀμαθὴς ἐρήμην ὁδὸν καὶ ἀτριβὴ ἰέναι προστεταγμένος*); but since he goes on to say that he had immediately followed up the Pauline edition which he had just made, we can hardly infer that so great a time as thirty years has elapsed between the two editions (*ἔναγχος τοίνυν, ὡς ἔφην, τὴν Παύλου βίβλον ἀνεγνώκως, αὐτίκα δῆτα, καὶ τήνδε τὴν τῶν ἀποστολικῶν πράξεων, ἅμα τῇ τῶν καθολικῶν ἐπιστολῶν ἑβδομάδι, πονέσας, ἀρτίως σοι πέπομφα*).

Nor has any one as far as I know succeeded in dissipating the contradictions which have been detected in Euthalius' statements. Even in the Elenchus to the capitulation of the Acts of the Apostles, the language of which agrees closely with that of the prologue, and intimates the same hand as was occupied with the prologue, he calls himself one of those who are 'young in years and in learning' (*ἡμεῖς ... οἱ νέοι χρόνων τε καὶ μαθήματων*), an expression the force of which might perhaps be evaded, but which hardly seems appropriate to an old man.

I propose to try and determine more exactly the time and place of Euthalius in the ecclesiastical history and to get rid of some of the confusions to which we have drawn attention.

Let us begin by studying a little more closely the prologue to the Acts, independently of the headlines and summaries of it which are offered in the MSS. Let us imagine that the piece had come down to us without a heading at all, and let us try to determine the circumstances of the production of the book from its contents.

The writer begins by telling us that those who are aspirants after

immortality occupy themselves in the first beatitude of the Psalmist, to wit, the meditation day and night in the law of the Lord (τοὺς περὶ τοῦ θείου λόγους ἐμμελέτημα νύκτωρ τε καὶ μεθ' ἡμέραν τῇ σφῶν αὐτῶν τίθενται ψυχῇ); and it was their duty, in obedience to the commands of their superiors, to communicate to others the fruit of their researches. He had himself sent to one of our fathers in Christ an edition of the Apostolic epistles, written by his own hand, in quasi-verse or colometric writing. The design was a new one, but he was not disposed to depreciate on that account the labours of those who had gone before him. But since the Pauline edition was now to be followed by another volume, he asks the pardon of the brethren for his venturesomeness and headstrong zeal (συγγνώμην γε πλείστην αἰτῶν ἐπ' ἀμφοῖν, τόλμης ὁμοῦ καὶ προπετείας τῆς ἐμῆς) and hopes they will indulgently correct his errors (διορθοῦσθαι δέ μοι μᾶλλον ἀδελφικῶς κατὰ συμπεριφορὰν τούτων τὰ ἕκαστα). Obedience to a father in Christ had first set him to this task, love to the brethren led him to its conclusion.

And now there follows in the prologue an address to the person to whom the book is dedicated, which is so important for the understanding of it, that I must transcribe a complete sentence :

ἐγὼ δὲ δικαιοῦτα, καὶ μάλα γε ὀρθῶς σύντροφόν τε καὶ φίλην ἐπιφημίσαιμ' ἄν σοι, καὶ καταλέξω τὴν εὐπροσήγορον, τὴν πάννυ φερώνυμον, τὴν τῶν θεῶν λογίων ἐμφιλόσοφόν φημι μελέτην, ὅφ' ἦν γεγώνως (l. γεγονῶς) φιλόχριστε, καὶ εἰσωγέ τοι τῶν δικτύων αὐτῆς ὑπάρχων, καὶ τὴν ἐράσμιον αὐτῆς προσηγορίαν ἔγκαταπραγματενόμενος, συχναῖς τε αἰεὶ καὶ ἀκοιμήτοις γυμνασίαις ἀκούμενος (l. ἀσκούμενος) εὐθαλεστάτην κατέστησας.

The sense of which passage is as follows, after some obvious corrections have been made :

"With great justice and accuracy I might assign her to thee as thy foster-sister and darling, and I will describe her as the fairly-entitled, the appropriately-named¹, the one skilled in the knowledge of the divine oracles, her, I mean, Mistress Study (μελέτη), under whose power thou hast come, and verily she hath thee in the net ; while thou, busied in the acquisition of so delightful an appellation, and trained ever in persistent and sleepless discipline, hast rendered her flourishing indeed."

The key-word to the understanding of this passage is the word μελέτη. If we had any doubt on the point the sentences which succeed would settle the question ; for the writer goes on to remark

¹ Or possibly : *the very namesake.*

that even the poets had sung her praises, and quotes the expression of Hesiod¹,

Μελέτη δέ τοι ἔργον ὀφέλλει,

and had not David himself indicated the blessedness of the man who meditates in the law of the Lord day and night (ὃς ἐν νόμῳ Κυρίου μελετήσῃ ἡμέρας καὶ νυκτός)? We observe that this passage has already been quoted at the beginning of the prologue, so that it was the text of his discourse, and, as we shall see presently, involves in itself the secret of his literary venture. After speaking of the praises of μελέτη by David, he goes on to remark that it is the will of God that we should continually busy ourselves with this μελέτη (οὕτως ἀπνὸν τε καὶ αἰδὼν πρὸς τὴν μελέτην ταύτην ἔχειν ἡμᾶς τὴν διάθεσιν ὁ Θεὸς βούλεται); for David has said in another place, 'The meditation (μελέτη) of my heart is continually before Thee, O Lord, my Helper and my Redeemer.' The prize is therefore for those who are occupied in the *meditation* of heavenly things.

Now it is clear from this that the writer is playing with the word μελέτη; and he has personified her and made her into a fair bride for the good father to whom he writes. But why should he say of her that she is his foster-sister, ay! and his namesake? Does he mean that Athanasius to whom he writes will attain immortality by the study of the Divine Oracles? At first sight there is something attractive in the supposition, for the prologue opens with the statement that those who are enamoured of immortality will set before them as a mark the study of divine things. But it is doubtful whether on this hypothesis the writer could have described μελέτη as τὴν πάνν φερώνυμον, or as σύντροφον to Athanasius.

We may obtain some light on the question by remarking another passage, in which the writer has used the same expression πάνν φερώνυμον. At the close of the arguments of the Pauline Epistles the writer adds a note² on the chronology of the Acts and St Paul's Preaching; he takes his information from the Chronicon of Eusebius, and says that soon after the Ascension the Apostles appointed to the diaconate the appropriately named Stephen. Zacagni edits

τὸν αὐτοφερώνυμον Στέφανον,

but notes that one of his MSS. reads πάνν φερώνυμον: and since we

¹ The MSS. read ὠφελεῖ, which ὠφέλειαν.

agrees with the writer's explanation,

² Zacagni, p. 529.

παρεγγυῇ τὴν καλλίστην ἡμῶν ἐξ αὐτῆς

see, a few lines lower down in the text, an unnecessary and suspicious word *πάνν*, we may conclude that it is a misplaced correction which should have been entered a little higher up in the text. So we read *πάνν φερώνυμον* : and the writer clearly means that Stephen was rightly named on account of his crown of martyrdom.

It is reasonable then to assume that in the previous passage he is playing on the word *μελέτη*.

But this can hardly be the case unless the discourse were addressed not to Athanasius, but to some one of the name of Meletius.

Make this supposition and all is clear : Melete (Study) is your foster-sister, bride, and namesake ; caught in her toils, you, Meletius, have made her renowned.

Nor need we be surprised at this play on words : for the writer has a habit of drawing parallels from language, and sometimes does it very viciously. To take an instance, he explains the reason for the change of name of the Apostle from Saul to Paul on the ground that formerly he disturbed (*ἐσάλευε*) the Church, and afterwards he ceased from his wicked persecutions (*πέπανται*).

We conclude, then, that the prologues were in the first instance addressed to a father of the name of Meletius, who may reasonably be concluded to be the person who set the enterprise in motion, at all events as far as regards the Acts. The name of Athanasius is a substitute for this and must be removed. A later hand has gone over the prologues, and written Athanasius for Meletius, but without seeing that he had left in the text the play upon Meletius' name.

But, if this be the right interpretation, and the work was addressed to Meletius ; we may go further and say that the writer was named Euthalius, for he has played on his own name in the same passage in which he yoked together Melete and Meletius : by his assiduous labours in the study of divine oracles, says he, Meletius had made Melete most flourishing (*εὐθαλεστάτην*). The proper heading of the book is therefore *Εὐθαλίου πρὸς Μελέτιον*. We may remark that the consciousness of the meaning of his own name is with the writer in other parts of his prologues. At the close of the prologue to the Acts he speaks of the fruitful preaching of Paul (*κηνύγματος εὐθαλοῦς*), and in the history of Paul at the beginning of the apparatus for the study of the Pauline epistles he uses the same expression (*ὥς γὰρ εἶδε τὸ κήρυγμα διαλάμψαν, καὶ τὸν τῆς ἀληθείας εὐθαλῆ λόγον ἐπικρατέστερον κτε*). These may be accidental coincidences, but, at all events, in the passage where he plays with the name of

Μελέτη we are entitled to assume that he also played on his own name.

But why, it will be asked, should the name of Meletius be erased? The answer is that there never was a Meletius, worth mentioning, who was not a schismatic. Severance is the badge of all their tribe. The fourth and fifth centuries contain at least three famous Meletii who were excommunicated in the interests of order and unity. The first was the author of the Meletian schism in Egypt, which was one of the matters set in order by the first council of Nicaea: the second was Meletius of Antioch, who was the author of the great schism that rent the Eastern Church in the fourth century: the third was Meletius of Mopsuestia, the disciple and successor of the great Theodore, who underwent the sentence of banishment because he refused to condemn the doctrines of his master, and join in the anathema on Nestorius. It becomes an interesting question to determine whether either of these three is the person addressed by the author of the prologues. Either one of them would be likely to have his name erased from the books current in the Church; the two first were famous in the history of disorder; the third would perhaps have been condemned on an editorial revision of his work for the name which he had in common with them, even if he had not been himself under the ban of the Church in his later years. So we have three good candidates for the honour of being the patron of Euthalius.

Meanwhile, be it observed, in getting rid of Athanasius, we have already simplified the chronology of the work. We have no longer any need to bring the younger Athanasius on the scene, nor to depress the date of the prologue of the Acts to A.D. 490; Athanasius is simply the orthodox name substituted for the unorthodox one, and carries no chronology with it. We may, therefore, regard the Acts as having been edited immediately subsequent to the Pauline Epistles, and the apparent difficulty between Euthalius the young, and Euthalius grown older, has disappeared. If, for instance, it should appear that the Pauline epistles according to the Euthalian recension were written in A.D. 458, then the Acts must have been published soon after; and in any case, whatever date we assign to the one, the date of the other is on Euthalius' statement almost immediately successive.

And now let us proceed to examine the chronological dates more closely. These dates are found in the edition of the Pauline epistles

in a short notice concerning the Martyrdom of St Paul, which runs as follows:

Ἐπὶ Νέρωνος τοῦ Καίσαρος Ῥωμαίων ἐμαρτύρησεν αὐτόθι Παῦλος ὁ Ἀπόστολος ξίφει τὴν κεφαλὴν ἀποτμηθεὶς, ἐν τῷ τριακοστῷ καὶ ἑκτῷ ἔτει τοῦ σωτηρίου πάθους τὸν καλὸν ἀγῶνα ἀγωνισάμενος ἐν Ῥώμῃ πέμπτῃ ἡμέρᾳ κατὰ Συρομακεδόνας Πανέμου μηνὸς ἧτις λέγοιτο ἂν παρ' Ἀθηναίων ἐπιφῶνι εἶ, παρὰ δὲ Ῥωμαίοις ἢ πρὸ τριῶν καλανδῶν Ἰουλίων, καθ' ἣν ἐτελειώθη ὁ ἅγιος Ἀπόστολος τῷ κατ' αὐτὸν μαρτυρίῳ, ἐξηκοστῷ καὶ ἐννάτῳ ἔτει τῆς τοῦ σωτῆρος ἡμῶν Ἰησοῦ Χριστοῦ παρουσίας. Ἔστιν οὖν ὁ πᾶς χρόνος ἐξ οὗ ἐμαρτύρησε τριακόσια τριάκοντα ἔτη μέχρι τῆς παρουσίας ταύτης ὑπατείας τετάρτης μὲν Ἀρκαδίου τρίτης δὲ Ὀνωρίου τῶν δύο ἀδελφῶν Αὐτοκρατόρων Αὐγούστων, ἐννάτης ἰνδικτιῶνος τῆς πεντεκαίδεκαετηρικῆς περιόδου, μηνὸς Ἰουνίου, εἰκοστῇ ἐννάτῃ ἡμέρᾳ. Στίχοι 15'.

Ἐσημειωσάμην ἀκριβῶς τὸν χρόνον τοῦ μαρτυρίου Παύλου Ἀποστόλου καὶ ἀπὸ τῆς ὑπατείας τετάρτης μὲν Ἀρκαδίου, τρίτης δὲ Ὀνωρίου μέχρι τῆς παρουσίας ταύτης ὑπατείας, πρώτης Δέοντος Αὐγούστου, ἰνδικτιῶνος δωδεκάτης ἐπιφῶνι εἶ, Διοκλητιανοῦ ροδ', ἔτη ἐγ' ὡς εἶναι τὰ πάντα ἀπὸ τῆς τοῦ Σωτῆρος ἡμῶν παρουσίας μέχρι τοῦ προκειμένου ἔτους ἔτη τετρακόσια ἐξήκοντα δύο.

It has been generally held that the occurrence of the supplementary reckoning, bringing the years from St Paul's Martyrdom from 396 A.D. to 458 A.D., is to be interpreted so that we understand the former reckoning to be in the papers upon which Euthalius worked, and the latter to be his own addition. Zacagni accordingly says that the first part of the account is due to the anonymous earlier father who had before Euthalius divided the Pauline epistles into chapters; and that it is on this account that in his Codex Urbinas the first part of the section on the martyrdom is given, but not the prefixed Euthalian prologue.

Now, without going any further into the minuter details of the chronology, we can see clearly that the Meletius addressed is not Meletius of Lycopolis, who was deposed in 306, and whose case came before the first council of Nicaea. He is at any rate far too early.

Nor will Meletius the second, the author of the great schism at Antioch, serve our purpose any better. This Meletius came to Antioch in 361, and in consequence of a certain defence which he made of the Nicene formula, a schism arose in the Church, the Arians apparently rejecting Meletius on account of his Nicene orthodoxy, while the Catholic party disowned him as one who had

received Arian ordination. Meletius became the focus of the disintegrating forces that were at work in that unhappy Church. In the year 381 Meletius was called to preside over the council of Constantinople, and died during the session. This is hardly compatible with the date 396 which we find in the Euthalian prefaces. Accordingly we are driven to the third Meletius; viz. Meletius of Mopsuestia, the pupil and successor of the illustrious Theodore. All the chronological difficulties are removed by this supposition; Theodore of Mopsuestia ended his laborious and learned life about the year 428; Meletius, his successor, was exiled shortly after the deposition of Nestorius in 431, probably to Meletene in Cappadocia (though this again may have been suggested by his own name; Nestorius was certainly removed to Egypt). There is then nothing impossible in the dedication by Euthalius of his work on the Acts and Epistles to Meletius of Mopsuestia in the year 458, or perhaps earlier.

Now if this hypothesis be correct, we can readily identify the anonymous father mentioned in Euthalius' work. He tells us in his prologue to the Pauline Epistles that he gives the argument of the chapters which had been wrought out by one of the wisest of our fathers (*ἐν τοῖς ἐξῆς προτάξομεν τὴν τῶν κεφαλαίων ἐκθεσιν, ἐνὶ τῶν σοφωτάτων τινι, καὶ φιλοχρίστῳ πατέρων ἡμῶν πατέρων*). Who is the father of whom Euthalius speaks? To my delight I find that the suggestion comes from two quarters (or rather the suggestion from one quarter and the confirmation from another) that the person in question is Theodore.

If you will turn to Mill's prolegomena to the New Testament (a mine of unexhausted learning which is too much neglected by many of us) you will find a reference to the question of the Pauline prefaces and capitulations¹. Mill asks, after noting that the writer seems to be rather a Syrian than an Asiatic, "Quidni vero is fuerit Theodorus Mopsuestenus? Certe mire conspirant omnia in hanc sententiam. Erat Theodorus genere Syrus, Ecclesiae Antiochenae Presbyter. Erat et ante annum modo dictum cccxvi Mopsuestiae in Cilicia Episcopus. Erat etiam insigniter eruditus; et quidem inter alia scripserat in has ipsas D. Pauli Epistolas Commentaria. Neque certe parum huic opinioni favet, quod Euthalius reticuerit eximii hujus Episcopi nomen: exosum quippe, et in Synodo Con-

¹ p. lxxxvi in the Oxford edition of Mill.

stantinopolitana damnatum; ut proinde haud commodum fuerit ipsum expresse nominasse."

We naturally turn to Dr Swete's edition of Theodore's Commentary on the Pauline epistles to see what light is thrown on the question by the recovery of the lost work of which Mill speaks: and we find¹ the following remarks:

"This theory [of Mill] receives some support from the facts now brought to light by the recovery of the Latin Theodore. (1) At 1 Thess. v. 1, where the 6th Euthalian chapter of that Epistle begins, Theodore has the remark, "alterum hic incipit capitulum." (2) Though I have not noticed any other clear instance of this use of the word *capitulum*, there is a very general coincidence between the beginnings of the Euthalian chapters and the successive steps which Theodore seems to take in unfolding the arguments of the several Epistles. (3) Both the *ὑποθέσεις* and the headings of the *κεφάλαια* occasionally accord in a striking way with Theodore's judgments or modes of expression; e.g. the hypotheses to Ephesians and Colossians both begin *ταύτην ἐπιστέλλει ἀπὸ Ῥώμης, οὕτω μὲν ἑωρακὼς αὐτοὺς, ἀκούσας δὲ περὶ αὐτῶν*; and the third chapter of the latter Epistle is headed *περὶ τῆς ἐν Χριστῷ [κτίσεως καὶ] ἀνακτίσεως τῆς κατὰ συνάφειαν Θεοῦ*, where, if we omit the bracketed words, the remainder will exactly represent the drift of Theodore's singular exposition. Now the original work upon which Euthalius drew appears to have been executed A.D. 396. If it proceeded from Theodore's pen, may we not reasonably see in it his first step in preparation for carrying out the great project of commenting upon St Paul?"

As I have said, it was a delight to me to find that my little investigation led to results in harmony with the speculations of Mill and Swete. And I shall assume, therefore, that the basis of Euthalius' work, at all events in the Pauline epistles, is to be sought amongst the lost works of Theodore.

I might now go a step further and point out that there is another anonymous father in the story: in the prologue to the Acts, Euthalius tells us that his edition of the Pauline epistles, upon which he had laboured to the best of his ability, had been sent to a certain one of our fathers in Christ (*πρώην διεπεμψάμην πρὸς τινὰ τῶν ἐν Χριστῷ πατέρων ἡμῶν*); on turning to the Pauline prologue, we find the person in question addressed anonymously as *Πάτερ τιμώτατε*. One can

¹ Swete, *Theodore of Mopsuestia*, p. lxi.

hardly help wondering whether this may not have been Nestorius. The date of his death is, I believe, uncertain; being placed somewhat later than 439. It would be interesting if Euthalius should turn out to have written a book in which he borrowed materials from one famous heretic, Theodore, and dedicated the two parts of the treatise in succession to two other famous men, Nestorius and Meletius, who were under the ban of the Church. The thing is by no means impossible; but in the absence of more exact knowledge concerning the date of Nestorius' death, it is wise not to speak too positively. The fact that the dedication changes from the unknown father to Meletius would seem to imply that the former died between the two editions.

But, it will be said, what has all this to do with Codex B? Well, we are coming to that point.

You will remember that the observed fact which we work from is that Codex B and Euthalius have a common division of 40 chapters in the Acts.

Now it is extremely unlikely that Cod. B has taken any system of chapters invented by Theodore, for the date of B is probably superior to that father¹.

Moreover, B does not seem to have the Theodore chapters in the Pauline epistles; we are therefore driven to seek for another source for the Euthalian materials. And it is in the following direction that we shall expect to find the capitulations which B and Euthalius have in common.

The other source from which Euthalius draws his material was the Cesarean library. I prove this as follows:

(i) The edition of the Acts and Catholic Epistles according to Euthalius ends with the statement that "the book of the Acts and Catholic Epistles was collated with the exact copies preserved at Cesarea in the library of Eusebius Pamphilus."

(ii) The edition of the Pauline Epistles, according to Zaccagni, does not shew any such reference to Cesarea; but we can shew as follows that such must have existed.

¹ It is not to be supposed that Theodore did no work on the Acts; perhaps he did; the reference which Swete (p. x) quotes from Assemani is suggestive; it is to the effect that the

Egyptian priest Abul-barakât says of Theodore "Theodorus commentator Syrorumque doctor habet expositionem quarundam epistolarum Pauli et actuum apostolorum."

If you will take the trouble to look at the MS. which is known as H^{pa1}, you will find the following curious subscription at the end of the Epistle to Titus.

ἔγραψα καὶ ἐξεθέμην κατὰ δύναμιν στειχηρὸν (sic!) τόδε τὸ τεῦχος παύλου τοῦ ἀποστόλου πρὸς ἐγγραμμὸν (l. εὐγραμμὸν) καὶ εὐκατάλημπτον ἀνάγνωσιν· τῶν καθ' ἡμᾶς ἀδελφῶν. παρῶν (sic) πάντων τόλμης συγγνώμην αἰτῶ· εὐχὴ τῇ ὑπὲρ ἐμῶν (l. ἡμῶν) τὴν συνπεριφορὰν κομιζόμενος· ἀντεβλήθη δὲ ἡ βίβλος πρὸς τὸ ἐν Καισαρίᾳ ἀντίγραφον τῆς βιβλιοθήκης τοῦ ἁγίου Παμφίλου χειρὶ γεγραμμένον αὐτοῦ.

If you compare this with the prologue of Euthalius to the Acts you will be at once struck with the coincidence in the language, which shows conclusively that Cod. H is a Euthalian text, not far removed from the archetype: e.g. compare the sentence

συγγώμην γε πλείστην αἰτῶν ἐπ' ἁμφοῖν τόλμης ὁμοῦ καὶ προπετείας τῆς ἐμῆς, ἅπαντές τε εἰκότως κουνῇ, καθικετεύων ἀδελφούς τε καὶ πατέρας μετ' ἀγάπης αὐταῖς ἐντυγχάνειν, τῶν τε ἐμῶν ἁμαρτημάτων τε καὶ σφαλμάτων τῶν ἐξ ἀπειρίας ἀμνημονεύειν, διορθοῦσθαι δέ μοι μᾶλλον ἀδελφικῶς κατὰ συμπεριφορὰν τούτων τὰ ἕκαστα.

It appears then that Cod. H^{pa1}, which is a Euthalian text, almost of the same age as Euthalius, claims, in a sentence which seems to be derived from Euthalius, to have been derived in part from the Cesarean library.

But (iii) there is direct evidence that Euthalius employed the materials of Pamphilus.

If you will turn to the description which Montfaucon gives of the Codex Coislinianus 25, you will see that the Euthalian chapters in the Acts are expressly described as

ἔκθεσις κεφαλαίων τῶν πράξεων τοῦ Παμφίλου.

Now here we have important evidence; if the chapters are really due to Pamphilus, as Montfaucon thought, and there is much to be said for the supposition, then Euthalius took them from Pamphilus; if they are wrongly ascribed, they at least shew that Euthalius was believed to have had literary relations with that father: and taking this with the two other suggestions of the use of Cesarean matter, the case for connecting Euthalius with the Cesarean library becomes very strong.

Now the supplementary list of chapters (that which B and Euthalius have in common) was evidently not taken out of a tract or

book; for Euthalius merely says you will find the numbers marked in the margin. They must therefore have come from the MSS. which Euthalius worked upon; but it has been shewn that the tradition is in favour of assigning the most important of these MSS. to Cesarea. We say then that Codex B and Euthalius agree in having a common Cesarean chapter-division in the Acts.

If the first division of the Acts be rightly assigned to Pamphilus, the supplementary division must be referred, at all events, to the same library.

We have now thrown Codex B and Euthalius very close together. The argument is not a decisive one, for there are other possibilities. The chapters in question might be older than Pamphilus; they might be, say, Origen's. In that case B would have more room to walk about; but if they are Pamphilus' chapters, B must keep very close to Cesarea.

Moreover we remember that \aleph , which has so many links with B, has also in its pages the evidence of having been corrected in the seventh century from a Cesarean copy, corrected by Pamphilus' own hand. It is not unreasonable to suppose that all this internal nexus between \aleph and B, \aleph and Cesarea, B and Euthalius, and Euthalius and Cesarea, is explicable by the supposition of a common home and common workshop at the other end of the Mediterranean¹.

¹ It is curious that Euthalius does not seem to have been the only person who made puns on the name of Meletius. Gregory of Nazianzus (Carm. xi,

1521) describes Meletius of Antioch as follows:

τὸν ὄνθ' ὅπερ κέκλητο, καὶ καλούμενον
ὁ ᾧ· Μέλιτος γὰρ καὶ τρόπος καὶ τοῦνομα.

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